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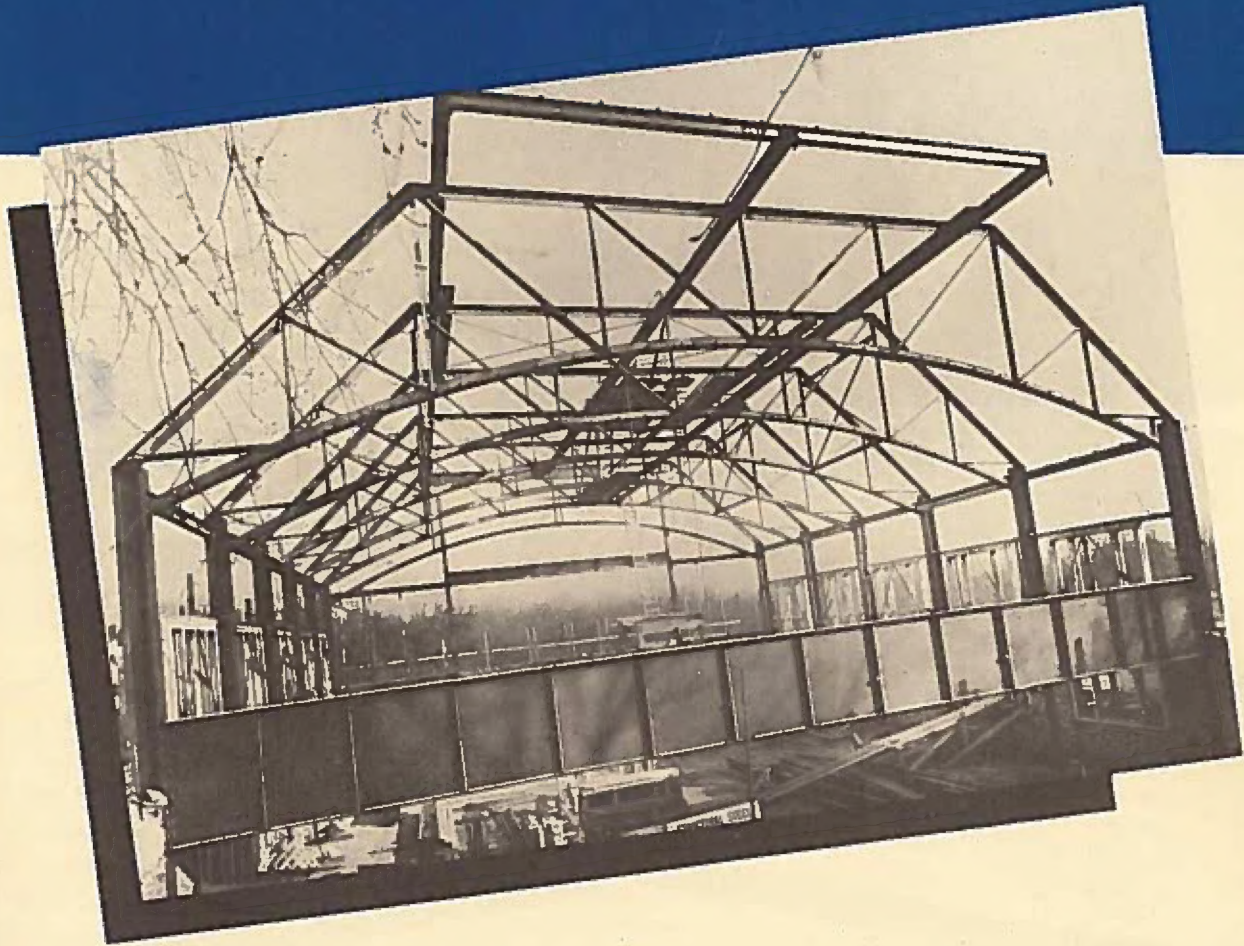
Williams (J. H.) + Co., Buffalo, N. Y.
" " " " " "

Tools of industry

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SAXE WELDED ERECTION SYSTEM



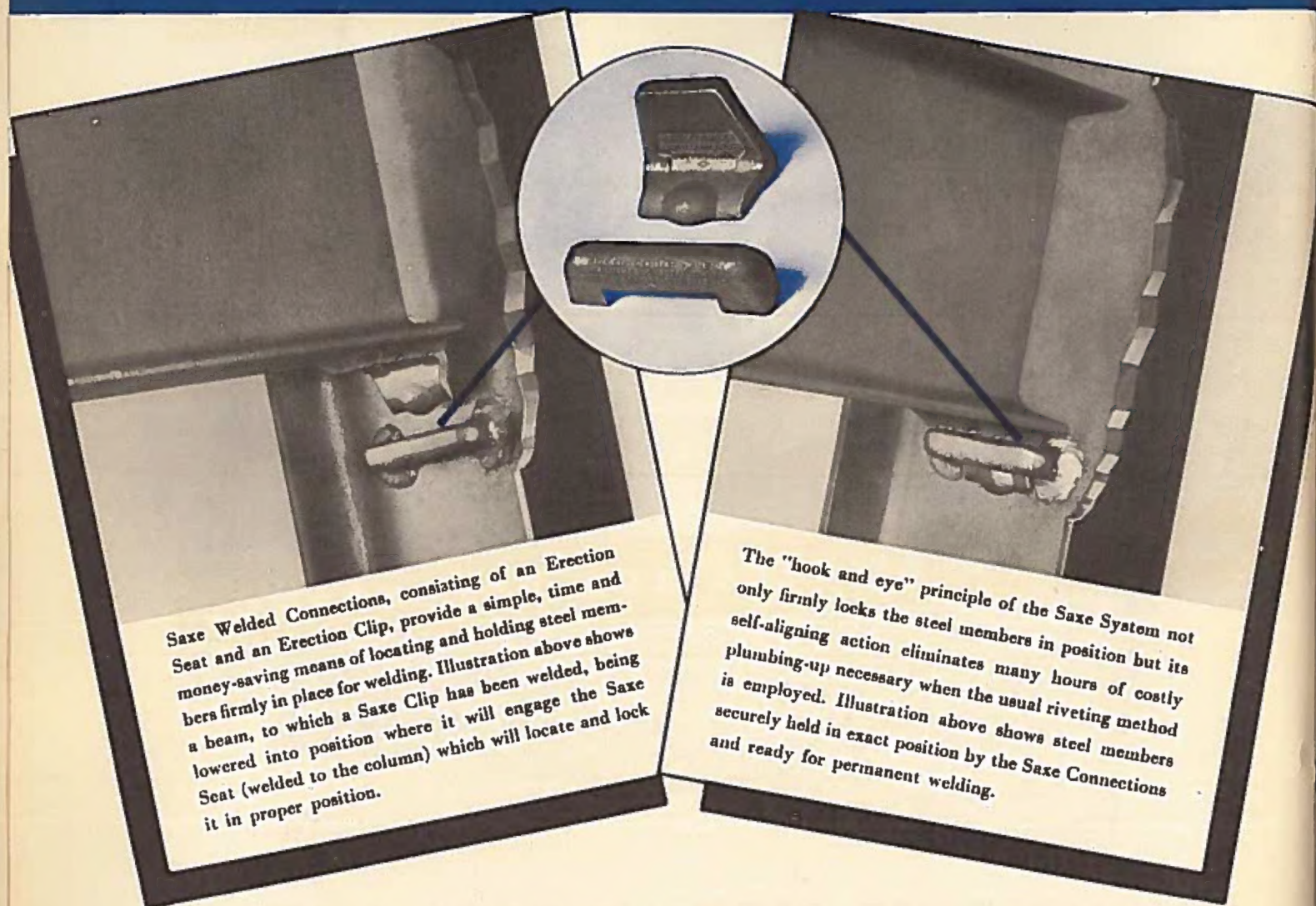
AN IMPROVED STEEL ERECTION METHOD THAT SAVES FROM \$3.00 TO \$5.00 PER TON

The Saxe Welded Erection System provides an economical method of locating and holding structural steel parts that are to be welded. It greatly simplifies welded construction and substantially lowers fabricating costs in practically all types of structural steel work. Widely used in scores of buildings of various types over a 10-year period, it has proven safe and dependable. Since it can be applied to any structure originally laid out for riveting without involving special equipment and with available labor, it is thoroughly practical. It is not only a noiseless method of construction but its simplicity and speed substantially hasten completion dates.

Bulletin No. 2

Drop-forged by J. H. WILLIAMS & CO., Buffalo, N. Y.

HOW THE SAXE SYSTEM WORKS



Saxe Welded Connections, consisting of an Erection Seat and an Erection Clip, provide a simple, time and money-saving means of locating and holding steel members firmly in place for welding. Illustration above shows a beam, to which a Saxe Clip has been welded, being lowered into position where it will engage the Saxe Seat (welded to the column) which will locate and lock it in proper position.

The "hook and eye" principle of the Saxe System not only firmly locks the steel members in position but its self-aligning action eliminates many hours of costly plumbing-up necessary when the usual riveting method is employed. Illustration above shows steel members securely held in exact position by the Saxe Connections and ready for permanent welding.

Offers Many Advantages Over Riveting

Economies resulting from the simplicity of the Saxe method are twofold. The first advantages are apparent in the fabrication of steel in the shop. Punched holes in beams and columns, along with rivets, temporary fitting-up bolts and nuts and the connecting of angle plates are all eliminated. Wrenches, drift-pins, wood templates to mark off the holes, and equipment ordinarily used for riveting are unnecessary. Power punches and other heavy Machinery are not required.

Such equipment is replaced by a welding machine, a few clamps, Saxe Erection Connections and welding rod. Two men, a welder and machine attendant,

comprise a full crew. Welding eliminates over half the operations usually necessary when fabricating and erecting a riveted job. The second major Saxe method comes in erection of the steel. With many operations eliminated, handling costs are lower. The lining up of rivet holes and application of service bolts are eliminated. When the steel is hooked together with Saxe connections, it is locked in place by a hammer blow on top of the beam and is then ready for the welder.

The Saxe method is so simple and direct that any shop employing qualified welders can turn out a satisfactory and money-saving job.

APPROVED BY BUILDING CODES AND INSURANCE COMPANIES

In the past 15 years welding in the structural field has grown from an experiment to a preferred means of assembly with the endorsement of leading engineers behind it. All structural welding is now done under approved welding codes. Over 300 cities in the United States now have welding codes or similar regulations which give full endorsement to all structural welding done to code requirements within their limits. There are no restrictions as to height of welded buildings which do not apply equally to comparable construction of riveted design. The Saxe method clearly meets the requirements of all existing codes.

A comprehensive manual describing the recommended use of Saxe connections is available.

SAXE SYSTEM HAS WIDE APPLICATION

The Saxe System can be adapted to any assembly where structural steel parts must be *located* and *held* for welding. In addition to buildings, aircraft hangars, steel trestles and bridges, the Saxe method is likewise adapted to shipbuilding and the construction of tanks and stacks. It is a particularly suitable method of steel assembly in "zones of quiet" and congested areas.

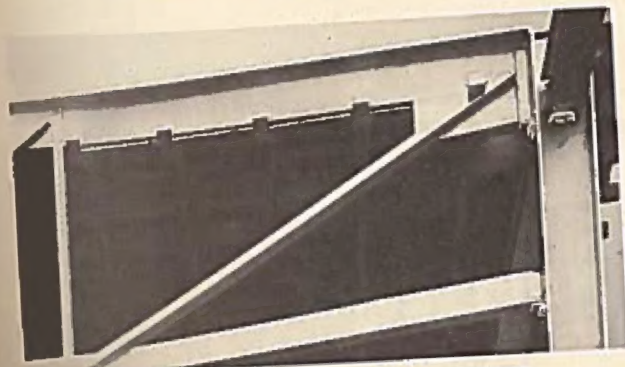
PROVEN TO BE SAFE AND DEPENDABLE

In the past 10 years not a single mishap or failure has occurred thru the use of Saxe connections in building construction. The safety and dependability of welded structures is assured by the high standards of engineering design and workmanship required by approved welding codes. For wind-braced or earthquake improved structures, welding produces a far more rigid and resistant frame than rivets, which have been known to work loose under alternating stress conditions. Exhaustive tests indicate that Saxe connections will carry a load of 40,000 lbs. without failure, which is far in excess of any reasonable requirement when assembling steel. Both Seat and Clip remain a permanent part of the assembled structure and, therefore, provide a safety margin in addition to the carrying capacity of the permanent weld itself.

USERS TESTIFY TO SAXE SYSTEM ECONOMIES

"Our first contract at Maryland Training School for Boys, Lockraven, Md., using these Seats, was constructed about 10 years ago and the use of a Seat with a welded frame saves considerable money as compared to the cost of the original frame."

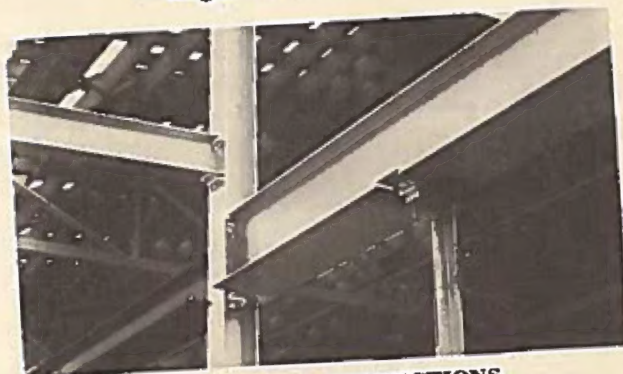
—Davis Construction Co.



TRUSS CONNECTION TO COLUMN

"We have found from experience where welded structural frames are called for, that the welded Erection Seats save considerable cost in erection and plumbing of framing work and increases the speed of erection."

—Cogswell Construction Company.



TYPICAL SAXE CONNECTIONS

Made With Saxe Welded Connections

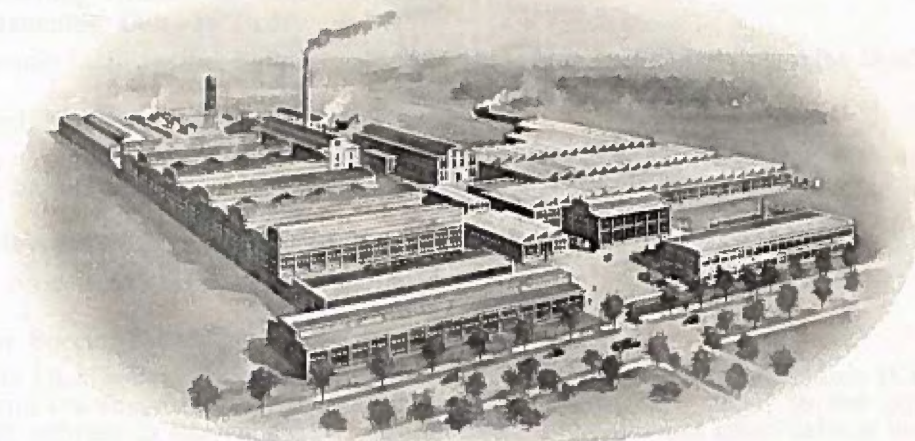


J. H. WILLIAMS & CO., 400 Vulcan St., BUFFALO, N. Y.

NOTICE—Due to the National Emergency and Critical Metal Shortage we must reserve the right to substitute both finishes and materials for those listed in this catalog without notice. Discontinued lines will be so marked. Individual discontinued items will be deleted and their reference retained in the Numerical Price Index.

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SUPERIOR DROP-FORGED TOOLS

**SUPERIOR
DROP-FORGINGS AND
DROP-FORGED TOOLS**



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J. H. WILLIAMS & CO.

ESTABLISHED 1882 — INCORPORATED JULY 1, 1895

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WILLIAMS WELDED ERECTION SYSTEM

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Industrial Edition

This Industrial Catalog supersedes all previous issues, which are hereby withdrawn. A separate Catalog covering additional Automotive Service tools is available on request. All Prices are subject to change without notice.

Cuts Illustrating Our Goods

Furnished to customers; if desired, we will edit copy for printer and check proof.

Dimensions

Unless otherwise stated, all dimensions are in inches.

Electric Welding

We are prepared to electric-weld rounds up to and including 1 1/8 inch diameter; by this means we can supply several of our stock specialties, such as Rod Ends, with shanks of any reasonable length.

**Heat-treating, Annealing, Tempering and
Case-hardening Done to Order**

We have ample facilities for handling work of this class and solicit inquiries therefor.

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Our laboratories are thoroughly equipped and we offer their services for such analyzing as may be required.

Estimates for Special Forgings

Furnished on receipt of model or drawing and specifications, including quantity.

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Charges for Dies and Tools include only a portion of their cost. We assume the risk of breakage and the expense of repair and maintenance. Tools are fitted to our equipment and are not subject to surrender. When inactive for three years after date of last order, they may be discarded at our option, without further notice.

Guarantee

We guarantee all our product, whether Standard Stock goods, as described in this catalog, or Special Forgings made to order, to be free from imperfections of workmanship and material. We will gladly replace, without charge, any which prove defective, but we cannot allow claims for labor or damages.

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LIST PRICES AND WEIGHTS OF WILLIAMS' WRENCHES
ARRANGED NUMERICALLY

| Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price |
|---------------------|------|-------------------|------------|---------------------|------|-------------------|------------|---------------------|------|-------------------|------------|---------------------|------|-------------------|------------|
| CARBON STEEL | | | | CARBON STEEL | | | | CARBON STEEL | | | | CARBON STEEL | | | |
| | | Finished | | | | Finished | | | | | | | | Finished | |
| S-000 | 2 | .03 | .28 | † 33C | 4 | 1. | 1.10 | † 77S | .. | .27 | .68 | 267H | 27 | .63 | 1.08 |
| S-00 | 2 | .05 | .28 | 34 | 4 | 1.4 | 1.36 | † 79 | .. | .46 | .86 | † 267X | .. | .63 | 1.08 |
| 00 | 2 | .07 | .28 | 34A | 4 | 1.4 | 1.36 | † 79A | .. | .46 | .86 | 268A | 26 | .75 | 1.20 |
| 0 | 2 | .09 | .30 | 35 | 5 | 1.4 | 1.36 | † 79B | .. | .46 | .86 | 268D | 26 | .75 | 1.20 |
| 1 | 2 | .13 | .36 | 36 | 5 | 2.2 | 1.92 | † 79C | .. | .46 | .86 | 268H | 27 | .75 | 1.20 |
| 2 | 2 | .22 | .44 | 37 | 5 | 2.2 | 1.92 | † 79D | .. | .46 | .86 | 268P | 27 | .75 | 1.20 |
| 3 | 2 | .32 | .52 | 37A | 5 | 2. | 1.92 | † 79E | .. | .46 | .86 | 269A | 26 | 1. | 1.38 |
| 4 | 2 | .44 | .64 | 38 | 5 | 2.0 | 2.80 | † 79S | .. | .46 | .86 | 269H | 27 | 1. | 1.38 |
| 5 | 2 | .65 | .76 | 38A | 5 | 2.0 | 2.80 | † 81 | .. | .72 | 1.10 | 270A | 26 | 1.3 | 1.56 |
| 6 | 2 | .86 | .92 | 39 | 5 | 2.0 | 2.80 | † 81A | .. | .72 | 1.10 | 270D | 26 | 1.3 | 1.56 |
| 6A | 2 | .86 | .92 | 39A | 5 | 2.7 | 2.80 | † 81B | .. | .72 | 1.10 | 270H | 27 | 1.3 | 1.56 |
| 7 | 3 | 1.4 | 1.14 | | | | | † 81H | .. | .72 | 1.10 | 270S | 26 | 1.3 | 1.56 |
| 8 | 3 | 2.2 | 1.50 | 40 | 5 | 3.7 | 3.80 | † 83 | .. | 1. | 1.40 | † 270X | .. | 1.3 | 1.56 |
| 8A | 3 | 2.2 | 1.50 | 40A | 5 | 3.7 | 3.80 | † 83A | .. | 1. | 1.40 | 271A | 26 | 1.7 | 1.80 |
| 9 | 3 | 2.7 | 2.30 | 41 | 5 | 3.5 | 3.80 | † 83B | .. | 1. | 1.40 | 271D | 26 | 1.7 | 1.80 |
| | | | | 42 | 5 | 5.5 | 5.30 | † 83C | .. | 1. | 1.40 | 271H | 27 | 1.7 | 1.80 |
| 10 | 3 | 3.7 | 3.20 | 42A | 5 | 5.5 | 5.30 | † 83D | .. | 1. | 1.40 | † 271X | .. | 1.7 | 1.80 |
| 10A | 3 | 3.7 | 3.20 | 42B | 5 | 5.5 | 5.30 | † 83J | .. | 1. | 1.40 | 273A | 26 | 2.7 | 2.40 |
| 11 | 3 | 4.5 | 4.20 | 43 | 5 | 5.5 | 5.30 | † 85 | .. | 1.7 | 2.00 | 273B | 26 | 2.7 | 2.40 |
| 11A | 3 | 4.5 | 4.20 | 44 | 5 | 7.8 | 7.20 | † 85B | .. | 1.7 | 2.00 | 273H | 27 | 2.7 | 2.40 |
| 12 | 3 | 6. | 5.70 | 44A | 5 | 7.5 | 7.20 | † 85C | .. | 1.7 | 2.00 | 274H | 27 | 3.2 | 2.70 |
| 12A | 3 | 6. | 5.70 | 45 | 5 | 7.7 | 7.20 | † 85J | .. | 1.7 | 2.00 | † 274X | .. | 3.2 | 2.70 |
| 13 | 3 | 7.8 | 7.30 | 46 | 5 | 9.5 | 10.50 | † 85K | .. | 1.7 | 2.00 | 275A | 26 | 3.9 | 3.00 |
| 13A | 3 | 7.8 | 7.30 | 46A | 5 | 9.5 | 10.50 | | | | | 275D | 26 | 3.9 | 3.00 |
| 14 | 3 | 9.9 | 9.20 | 47 | 5 | 9.5 | 10.50 | 201 | 18 | .28 | .75 | 276A | 26 | 4.8 | 3.44 |
| 14A | 3 | 9.9 | 9.20 | 47A | 5 | 9.5 | 10.50 | 201A | 18 | .28 | .75 | 276B | 26 | 4.8 | 3.44 |
| 15 | 3 | 11.5 | 11.20 | 48 | 5 | 13. | 14.00 | 201B | 18 | .28 | .75 | 276H | 27 | 4.8 | 3.44 |
| 15A | 3 | 11.5 | 11.20 | 49 | 5 | 12.7 | 14.00 | 202 | 18 | .28 | .75 | 277A | 26 | 6.1 | 3.90 |
| 16 | 3 | 14.3 | 13.40 | | | | | 203 | 18 | .52 | .95 | 277B | 26 | 6.1 | 3.90 |
| 16A | 3 | 14. | 13.40 | 50 | 5 | 13.2 | 18.00 | 203A | 18 | .52 | .95 | † 277N | .. | 6.1 | 3.90 |
| 16B | 3 | 14.3 | 13.40 | 50A | 5 | 13.5 | 18.00 | 204 | 18 | .52 | .95 | 277P | 27 | 6.1 | 3.90 |
| 17 | 3 | 20. | 20.50 | 50B | 5 | 13.2 | 18.00 | 204A | 18 | 1. | .95 | 277X | 27 | 6.1 | 3.90 |
| 17A | 3 | 20. | 20.50 | 51 | 5 | 14.7 | 19.00 | 205 | 18 | 1. | 1.20 | 278A | 26 | 8.2 | 4.80 |
| 18 | 3 | 28.6 | 29.50 | 52 | 5 | 16.7 | 22.00 | 205A | 18 | 1. | 1.20 | † 278P | .. | 8.2 | 4.80 |
| 18A | 3 | 29.50 | 29.50 | 53 | 5 | 18. | 24.00 | 206 | 18 | 1. | 1.20 | 279A | 26 | 10. | 6.30 |
| 19 | 3 | 34.5 | 42.00 | 54 | 5 | 24. | 28.50 | 206B | 18 | 1. | 1.20 | 279B | 26 | 10. | 6.30 |
| 19A | 3 | 34. | 42.00 | 54A | 5 | 24.5 | 28.50 | 207 | 18 | 1.8 | 1.55 | † 279X | .. | 10. | 6.30 |
| 19B | 3 | 34.5 | 42.00 | 54B | 5 | 24. | 28.50 | 207A | 18 | 1.8 | 1.55 | 280A | 26 | 12.5 | 8.40 |
| 19C | 3 | 34. | 42.00 | 55 | 5 | 24. | 31.00 | 208 | 18 | 2.7 | 2.05 | † 280X | .. | 12.5 | 8.40 |
| | | | | 56 | 5 | 31. | 40.00 | 208A | 18 | 2.7 | 2.05 | | | | Hard. |
| 20 | 3 | 52. | 62.00 | 56A | 5 | 31.5 | 40.00 | 209 | 18 | 3.0 | 2.70 | 367 | 20 | 1.5 | 1.50 |
| 20A | 3 | 48.5 | 62.00 | 57 | 5 | 34. | 47.00 | 209A | 18 | 3.0 | 2.70 | 367A | 20 | 1.5 | 1.50 |
| 20B | 3 | 52. | 62.00 | 57A | 5 | 38.7 | 56.00 | 210 | 18 | 5.1 | 3.60 | 370 | 20 | 2.6 | 2.50 |
| 21A | 3 | 95. | 114.00 | 57B | 5 | 33.5 | 47.00 | 210A | 18 | 5.1 | 3.60 | † 370A | .. | 2.6 | 2.50 |
| 21B | 3 | 94. | 114.00 | 57C | 5 | 39. | 56.00 | 211 | 18 | 7. | 5.30 | 370B | 20 | 2.6 | 2.50 |
| 21C | 3 | 85.5 | 114.00 | 58 | 5 | 45. | 62.00 | 211A | 18 | 7. | 5.30 | † 371 | .. | 3.5 | 3.10 |
| 22A | 3 | 167. | 204.00 | 58A | 5 | 40. | 62.00 | 212 | 18 | 7. | 5.30 | 372A | 20 | 3.5 | 3.10 |
| 22B | 3 | 156. | 204.00 | 59 | 5 | 42.5 | 62.00 | | | | | 373 | 20 | 3.5 | 3.10 |
| | | | | 59A | 5 | 43. | 62.00 | | | | | † 374 | .. | 4.1 | 3.70 |
| 21 | 4 | .08 | .34 | | | | | 260H | 27 | .04 | .54 | 376 | 20 | 4.1 | 3.70 |
| 22 | 4 | .11 | .42 | 60 | 5 | 48. | 75.00 | 261A | 26 | .05 | .60 | 377 | 20 | 4.8 | 4.50 |
| 23 | 4 | .15 | .42 | 60A | 5 | 48.5 | 75.00 | 261H | 27 | .05 | .60 | 378A | 20 | 4.8 | 4.50 |
| 24 | 4 | .18 | .50 | 61 | 5 | 66. | 94.00 | 261J | 27 | .05 | .60 | 379 | 20 | 4.8 | 4.50 |
| 25 | 4 | .23 | .50 | 61A | 5 | 66.5 | 94.00 | 262D | 26 | .15 | .66 | † 380 | .. | 5.4 | 5.30 |
| 25A | 4 | .23 | .50 | 62 | 5 | 60.5 | 94.00 | 262H | 27 | .15 | .66 | 382 | 20 | 5.4 | 5.30 |
| 26 | 4 | .30 | .62 | 62A | 5 | 66. | 94.00 | 263A | 26 | .17 | .72 | † 383 | .. | 6. | 6.30 |
| 27 | 4 | .34 | .62 | 63 | 5 | 95. | 135.00 | 263D | 26 | .17 | .72 | 383B | 20 | 6. | 6.30 |
| † 27C | .. | .34 | .62 | 64 | 5 | 113.5 | 155.00 | 263H | 27 | .17 | .72 | † 385 | .. | 6. | 6.30 |
| 28 | 4 | .40 | .74 | † 75 | .. | .20 | .54 | 264A | 26 | .20 | .78 | 387 | 20 | 8.5 | 9.00 |
| † 28S | .. | .40 | .74 | † 75A | .. | .20 | .54 | 265A | 26 | .32 | .88 | † 389 | .. | 8.5 | 9.00 |
| 29 | 4 | .49 | .74 | † 75B | .. | .20 | .54 | 265D | 26 | .32 | .88 | | | | Not Machd. |
| 30 | 4 | .61 | .90 | † 75C | .. | .20 | .54 | 265H | 27 | .32 | .88 | | | | |
| 31 | 4 | .76 | .90 | † 77 | .. | .27 | .68 | 266D | 26 | .44 | .96 | 403 | 22 | .13 | .40 |
| 32 | 4 | 1. | 1.10 | † 77B | .. | .27 | .68 | 266H | 27 | .44 | .96 | 404 | 22 | .28 | .46 |
| 33 | 4 | 1. | 1.10 | † 77C | .. | .27 | .68 | 267A | 26 | .63 | 1.08 | 405 | 22 | .34 | .52 |
| 33A | 4 | 1. | 1.10 | † 77E | .. | .27 | .68 | 267D | 26 | .63 | 1.08 | 406 | 22 | .50 | .60 |

† Discontinued

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| Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price |
|-----------------------|------|-------------------|------------|--|------|-------------------|------------|--|------|-------------------|------------|--|------|-------------------|------------|
| "ALWAYS READY" | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | |
| | | Per Doz. | Finished | | | Finished | | | | Finished | | | | Finished | |
| 1 | 30 | 4.4 | \$ 1.25 | † 1006A | | .92 | \$ 1.50 | † 1083B | | 1. | \$ 2.30 | 1206B | 35 | 1. | \$ 1.86 |
| 2 | 30 | 9. | 1.55 | † 1007 | | 1.5 | 1.88 | † 1083J | | 1. | 2.30 | 1207 | 35 | 1.8 | 2.60 |
| † 2 1/2 | | 20. | 2.40 | † 1008 | | 2.2 | 2.50 | † 1083K | | 1. | 2.30 | 1207A | 35 | 1.8 | 2.60 |
| 3 | 30 | 32. | 3.50 | † 1008A | | 2.2 | 2.50 | † 1085 | | 1.7 | 3.30 | 1208 | 35 | 2.7 | 3.50 |
| † Bull T. | | 3.7 | .75 | † 1009 | | 2.8 | 3.80 | † 1085B | | 1.7 | 3.30 | 1208A | 35 | 2.7 | 3.50 |
| | | | | † 1010 | | 3.9 | 5.30 | † 1085C | | 1.7 | 3.30 | 1209 | 35 | 3.0 | 4.80 |
| | | | | † 1010A | | 3.9 | 5.30 | † 1085H | | 1.7 | 3.30 | 1209A | 35 | 3.6 | 4.80 |
| | | | | † 1011 | | 4.8 | 6.90 | † 1085J | | 1.7 | 3.30 | 1210 | 35 | 6.1 | 6.80 |
| | | | | † 1011A | | 4.8 | 6.90 | † 1085K | | 1.7 | 3.30 | 1211 | 35 | 7. | 10.00 |
| | | | | † 1012 | | 6.2 | 9.40 | 1090 | 43 | .09 | .76 | 1212 | 35 | 7. | 10.00 |
| | | | | † 1012A | | 6.2 | 9.40 | 1090A | 43 | .09 | .76 | | | | |
| | | | | † 1013 | | 8. | 12.15 | 1090B | 43 | .09 | .76 | † 1471 | | .28 | 3.95 |
| | | | | † 1013A | | 8. | 12.15 | 1090C | 43 | .09 | .76 | † 1472 | | .54 | 3.50 |
| | | | | † 1014 | | 10. | 15.30 | 1090D | 43 | .19 | .76 | † 1474 | | .94 | 4.85 |
| | | | | † 1014A | | 10. | 15.30 | 1090E | 43 | .19 | .76 | 1519 | 71 | .08 | 1.85 |
| | | | | 1021S | 32 | .09 | .58 | 1090F | 43 | .19 | .76 | 1520 | 71 | .57 | 2.20 |
| | | | | † 1021 | 32 | .09 | .58 | 1092 | 43 | .22 | .82 | | | | |
| | | | | † 1022 | | .12 | .69 | 1092B | 43 | .22 | .82 | † 1700 | | .09 | .47 |
| | | | | 1023 | 32 | .12 | .69 | 1092C | 43 | .22 | .82 | † 1701 | | .13 | .56 |
| | | | | † 1024 | | .18 | .82 | 1092D | 43 | .22 | .82 | † 1702 | | .22 | .70 |
| | | | | 1025 | 32 | .18 | .82 | 1092F | 43 | .22 | .82 | † 1703 | | .33 | .85 |
| | | | | † 1025A | | .18 | .82 | 1094 | 43 | .34 | .88 | † 1704 | | .48 | 1.05 |
| | | | | † 1026 | | .26 | 1.00 | 1094A | 43 | .38 | .88 | † 1705 | | .65 | 1.25 |
| | | | | 1027 | 32 | .26 | 1.00 | 1094B | 43 | .38 | .88 | † 1706 | | .92 | 1.50 |
| | | | | 1027C | 32 | .26 | 1.00 | 1094D | 43 | .34 | .88 | † 1707 | | 1.5 | 1.88 |
| | | | | † 1028 | | .37 | 1.24 | 1094F | 43 | .34 | .88 | † 1709 | | 2.7 | 3.80 |
| | | | | 1028S | 32 | .37 | 1.24 | 1094G | 43 | .34 | .88 | | | | |
| | | | | 1029 | 32 | .49 | 1.24 | 1096 | 43 | .41 | 1.06 | 1721 | 32 | .08 | .58 |
| | | | | † 1030 | | .40 | 1.24 | 1096A | 43 | .47 | 1.06 | † 1722 | | .10 | .58 |
| | | | | 1031 | 32 | .66 | 1.65 | † 1096B | | .47 | 1.06 | 1723 | 32 | .10 | .58 |
| | | | | † 1032 | | .79 | 1.65 | † 1096F | | .41 | 1.06 | 1723A | 32 | .11 | .69 |
| | | | | 1033 | 32 | .79 | 1.65 | 1096H | 43 | .41 | 1.06 | 1725 | 32 | .16 | .82 |
| | | | | 1033A | 32 | .79 | 1.65 | 1106 | 44 | .02 | .65 | † 1725A | | .16 | .82 |
| | | | | 1033C | 32 | .80 | 2.25 | 1107 | 44 | .02 | .65 | 1725B | 32 | .16 | .82 |
| | | | | 1034 | 32 | 1.2 | 2.25 | 1108 | 44 | .03 | .72 | † 1726 | | .26 | 1.00 |
| | | | | 1034A | 32 | 1.2 | 2.25 | 1109 | 44 | .03 | .72 | 1727 | 32 | .26 | 1.00 |
| | | | | 1035 | 32 | 1.2 | 2.25 | 1112 | 44 | .01 | .65 | † 1728 | | .37 | 1.24 |
| | | | | † 1036 | | 1.7 | 3.15 | 1113 | 44 | .01 | .65 | 1729 | 32 | .37 | 1.24 |
| | | | | 1037 | 32 | 1.7 | 3.15 | 1114 | 44 | .01 | .65 | † 1730 | | .40 | 1.24 |
| | | | | 1037A | 32 | 1.7 | 3.15 | 1115 | 44 | .01 | .65 | 1731 | 32 | .6 | 1.65 |
| | | | | † 1038 | | 2.1 | 4.90 | 1116 | 44 | .01 | .65 | 1731A | 32 | .6 | 1.65 |
| | | | | 1039 | 32 | 2.2 | 4.90 | 1118 | 44 | .03 | .72 | 1731BR | 42 | .98 | 4.30 |
| | | | | 1039A | 32 | 2.2 | 4.90 | 1120 | 44 | .03 | .72 | † 1732 | | .79 | 1.65 |
| | | | | 1040 | 32 | 2.2 | 4.90 | 1122 | 44 | .04 | .72 | † 1732A | | .70 | 1.65 |
| | | | | 1041 | 32 | 4.1 | 8.80 | 1124 | 44 | .04 | .72 | 1733 | 32 | .80 | 2.25 |
| | | | | † 1075 | | .20 | .93 | 1128 | 44 | .07 | .82 | † 1734 | | 1.2 | 2.25 |
| | | | | † 1075A | | .20 | .93 | 1132 | 44 | .07 | .82 | 1735 | 32 | 1.7 | 3.15 |
| | | | | † 1075B | | .20 | .93 | 1160 | 41 | .08 | 1.15 | 1735BR | 42 | 1.86 | 5.75 |
| | | | | † 1077 | | .27 | 1.18 | 1161 | 41 | .09 | 1.18 | † 1736 | | 1.7 | 3.15 |
| | | | | † 1077B | | .27 | 1.18 | 1162 | 41 | .13 | 1.28 | † 1736A | | 1.7 | 3.15 |
| | | | | † 1077C | | .27 | 1.18 | 1163 | 41 | .21 | 1.40 | 1737 | 32 | 1.7 | 3.15 |
| | | | | † 1077E | | .27 | 1.18 | 1164 | 41 | .28 | 1.55 | † 1738 | | 2.3 | 4.90 |
| | | | | † 1077S | | .27 | 1.18 | 1165 | 41 | .38 | 1.70 | † 1739 | | 2.3 | 4.90 |
| | | | | † 1079 | | .46 | 1.45 | 1166 | 41 | .5 | 1.85 | † 1739A | | 2.3 | 4.90 |
| | | | | † 1079A | | .46 | 1.45 | 1167 | 41 | .75 | 2.00 | † 1739B | | 2.3 | 4.90 |
| | | | | † 1079B | | .46 | 1.45 | 1167A | 41 | .75 | 2.00 | | | | |
| | | | | † 1079C | | .46 | 1.45 | 1168 | 41 | 1.13 | 2.15 | 1800A | 37 | .07 | .61 |
| | | | | † 1079E | | .46 | 1.45 | 1170 | 41 | 1.13 | 2.15 | 1801 | 37 | .11 | .73 |
| | | | | † 1079S | | .46 | 1.45 | 1171 | 41 | 1.75 | 2.40 | 1802 | 37 | .10 | .86 |
| | | | | † 1081 | | .72 | 1.75 | 1173 | 41 | 2.50 | 2.90 | 1802A | 37 | .10 | .86 |
| | | | | † 1081A | | .72 | 1.75 | 1176 | 41 | 3.88 | 3.45 | 1803 | 37 | .31 | 1.00 |
| | | | | † 1081B | | .72 | 1.75 | 1203 | 35 | .52 | 1.43 | 1803A | 37 | .31 | 1.00 |
| | | | | † 1081H | | .72 | 1.75 | 1203A | 35 | .52 | 1.43 | 1804 | 37 | .36 | 1.15 |
| | | | | † 1083 | | 1. | 2.30 | 1205 | 35 | 1. | 1.86 | 1804A | 37 | .36 | 1.15 |
| | | | | † 1083A | | 1. | 2.30 | 1205A | 35 | 1. | 1.86 | 1805 | 37 | .45 | 1.40 |

† Discontinued

3-43

LIST PRICES AND WEIGHTS OF WILLIAMS' WRENCHES

ARRANGED NUMERICALLY

| Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price |
|--|------|-------------------|------------|--|------|-------------------|------------|---|------|-------------------|------------|-----------------------|------|-------------------|------------|
| "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERSOCKETS" | | | |
| Finished | | | | Finished | | | | Finished | | | | | | | |
| 1805A | 37 | .45 | \$ 1.40 | † 7034A | | 1.3 | \$ 2.95 | 8910 | 36 | 4.64 | \$ 5.15 | † B-21 | | .56 | \$ 4.50 |
| 1806 | 37 | .08 | 1.70 | † 7037 | | 1.8 | 3.30 | 8911 | 36 | 5.88 | 5.50 | B-30 | 50 | .5 | 1.50 |
| 1806A | 37 | .08 | 1.70 | † 7037A | | 2.4 | 3.80 | 8912 | 30 | 0.51 | 5.85 | SB-30 | 53 | .14 | 1.02 |
| 1806B | 37 | .08 | 1.70 | 7039 | 38 | 2.4 | 3.80 | 8913 | 30 | 8.41 | 7.65 | B-40 | 50 | .57 | 2.70 |
| 1807 | 37 | .89 | 2.05 | 7039A | 38 | 2.4 | 3.80 | 8914 | 36 | 0.5 | 8.65 | S-40 | 53 | 1.4 | 3.90 |
| 1807A | 37 | .89 | 2.05 | † 7721 | | .11 | .80 | 8924 | 45 | .26 | 1.15 | SB-40 | 53 | .10 | 1.38 |
| 1808 | 37 | 1.5 | 2.60 | 7723 | 38 | .13 | .95 | 8928 | 45 | .26 | 1.15 | H-41 | 58 | 4.03 | 6.15 |
| 1808A | 37 | 1.5 | 2.60 | 7725 | 38 | .10 | .95 | 8930 | 45 | .26 | 1.15 | H-41B | 58 | 2. | 1.10 |
| 1809 | 37 | 1.9 | 3.50 | 7725B | 38 | .22 | 1.00 | 8932 | 45 | .25 | 1.15 | S-41 | 53 | 1.9 | 4.50 |
| 1809A | 37 | 1.9 | 3.50 | 7727 | 38 | .31 | 1.05 | 8934 | 45 | .22 | 1.15 | B-42 | 50 | .61 | 2.70 |
| 1810 | 37 | 2.9 | 4.70 | 7727A | 38 | .48 | 1.20 | 8936 | 45 | .22 | 1.15 | B-42B | 50 | .15 | .40 |
| 1810A | 37 | 2.9 | 4.70 | 7729 | 38 | .48 | 1.20 | 9723 | 39 | .10 | .95 | NM-42 | 48 | .25 | 1.40 |
| 1811 | 37 | 3.1 | 6.20 | 7729A | 38 | .60 | 1.40 | 9725 | 39 | .10 | 1.00 | NM-42B | 48 | .08 | .25 |
| 1811A | 37 | 3.1 | 6.20 | 7731A | 38 | .60 | 1.40 | 9725B | 39 | .22 | 1.00 | S-42 | 53 | 1.8 | 3.90 |
| 1812 | 37 | 4.3 | 8.05 | 7731B | 38 | .60 | 1.55 | 9727 | 39 | .20 | 1.10 | S-42B | 53 | .35 | .60 |
| II-1808 | 37 | 1.6 | 3.45 | † 7733 | | .94 | 1.85 | "SUPERRENCH" SETS (Chrome-Molybdenum) | | | | B-50 | 50 | .43 | 3.60 |
| II-1808A | 37 | 1.6 | 3.45 | † 7735 | | 2. | 3.30 | Finished | | | | B-50A | 50 | .43 | 3.60 |
| II-1809 | 37 | 2.3 | 4.65 | 7735A | 38 | 2. | 3.30 | 106 | 42 | 1.82 | \$ *7.85 | B-50B | 50 | .43 | 3.30 |
| II-1809A | 37 | 2.3 | 4.65 | 7737 | 38 | 2.4 | 3.80 | 108 | 42 | 2.08 | *10.30 | II-50 | 58 | 5.3 | 10.50 |
| II-1810 | 37 | 3.1 | 6.25 | 8021 | 39 | .18 | .80 | † 1001 | | 60. | 154.60 | S-50 | 53 | 1.3 | 4.50 |
| II-1810A | 37 | 3.1 | 6.25 | † 8023 | | .37 | .95 | 1001A | 62 | 60. | 152.50 | NX-50 | 60 | 0.3 | 16.20 |
| II-1811 | 37 | 3.8 | 8.25 | 8025 | 39 | .43 | 1.00 | 1025 | 33 | 2.7 | *8.65 | B-51 | 50 | .44 | 4.50 |
| II-1811A | 37 | 3.8 | 8.25 | † 8029 | | .84 | 1.35 | 1140 | 44 | .39 | 7.45 | B-51A | 50 | .44 | 4.50 |
| II-1812 | 37 | 5.4 | 10.70 | 8033 | 39 | 1.3 | 1.65 | 1140P | 44 | .5 | 9.30 | NM-51 | 48 | .16 | 4.00 |
| II-1813 | 37 | 6.5 | 13.55 | 8033C | 39 | 1.14 | 1.85 | 1148P | 44 | .23 | 5.15 | S-51 | 53 | 1.4 | 6.75 |
| II-1813A | 37 | 6.5 | 13.55 | † 8034 | | 1.3 | 2.95 | † 1168S | 41 | .8 | 5.40 | S-57 | 53 | 3.68 | 26.00 |
| II-1814 | 37 | 7.8 | 16.90 | † 8034A | | 1.3 | 2.95 | 1169S | 41 | 1.69 | 8.95 | B-108 | 50 | .16 | 1.08 |
| II-1815 | 37 | 10.3 | 28.05 | † 8037 | | 2.1 | 3.30 | † 1284 | | 1.20 | 9.72 | NM-102 | 48 | .06 | .85 |
| II-1815A | 37 | 10.3 | 28.05 | † 8037A | | 3.3 | 3.80 | † 1284P | | 1.36 | 11.64 | B-110 | 50 | .23 | 1.98 |
| II-1816 | 37 | 12.5 | 40.20 | 8039 | 39 | 3.3 | 3.80 | 1285P | 49 | 1.36 | 11.55 | II-110 | 58 | 1.5 | 2.70 |
| II-1817 | 37 | 10.3 | 55.00 | 8039A | 39 | 3.3 | 3.80 | † 1290 | | 1.45 | 14.00 | NM-110 | 48 | .34 | 1.44 |
| II-1817A | 37 | 10.3 | 55.00 | 8041 | 39 | 5.79 | 4.95 | † 1290P | | 1.53 | 15.85 | † S-110 | | .81 | 1.80 |
| 1903 | 35 | 0.3 | 1.68 | 8045 | 39 | 8.43 | 8.45 | 1291 | 49 | 1.45 | 14.00 | S-110P | 53 | .53 | 1.20 |
| 1903A | 35 | 0.3 | 1.68 | † 8048 | | 9.88 | 9.80 | 1291P | 49 | 1.53 | 15.85 | NX-110 | 60 | 3.08 | 5.25 |
| 1905 | 35 | 1.2 | 2.25 | 8049 | 39 | 10.20 | 10.60 | † 1400 | | 1.93 | *12.10 | B-115 | 50 | .44 | 1.20 |
| 1905A | 35 | 1.2 | 2.25 | 8053 | 39 | 14.65 | 16.25 | † 1712 | | 2.87 | *30.20 | II-115 | 58 | 2.8 | 3.30 |
| 1906 | 35 | 1.2 | 2.25 | † 8128 | | .27 | 1.35 | 6703 | 40 | .41 | 3.05 | NM-115 | 48 | .17 | 1.08 |
| 1907 | 35 | 1.9 | 3.15 | † 8132 | | .39 | 1.45 | † 7006 | | 3.06 | 7.60 | † S-115 | | 1.3 | 2.10 |
| 1907A | 35 | 1.9 | 3.15 | † 8136 | | .5 | 1.55 | † 8005 | | 4.29 | 8.10 | S-115P | 53 | 1.0 | 1.65 |
| 1908 | 35 | 2.8 | 4.25 | † 8140 | | .61 | 1.65 | † 8006 | | 3.54 | 7.60 | NX-115 | 60 | 7.08 | 6.40 |
| 1908A | 35 | 2.8 | 4.25 | † 8148 | | .80 | 1.80 | † 8105 | 41 | 2.01 | 7.80 | BM-130 | 50 | .05 | .90 |
| 1909 | 35 | 4.1 | 5.85 | 8723 | 39 | .26 | .95 | 9703 | 40 | .7 | 3.05 | DS-130 | 50 | .13 | 1.02 |
| 1910 | 35 | 5.6 | 8.10 | 8725 | 39 | .37 | .95 | "SUPERSOCKETS" | | | | IIHX-130 | 58 | 1.69 | 1.50 |
| 1911 | 35 | 7.9 | 12.25 | 8725B | 39 | .43 | 1.00 | MR-2 | 65 | .025 | .75 | MM-130 | 48 | .02 | .90 |
| 1912 | 35 | 7.9 | 12.25 | 8727 | 39 | .60 | 1.05 | MR-4 | 65 | .034 | .75 | SH-130 | 63 | .31 | 1.20 |
| † 1999 | | 1.2 | 4.00 | 8727A | 39 | .8 | 1.20 | MR-6 | 65 | .063 | .75 | XX-130 | 60 | 1.17 | 3.30 |
| 2273 | 43 | 2.7 | 4.80 | 8729 | 39 | .8 | 1.20 | MR-8 | 65 | .094 | .75 | BS-131 | 50 | .15 | 1.02 |
| 2274 | 43 | 3.9 | 5.40 | 8729A | 39 | 1. | 1.40 | MR-10 | 65 | .125 | .75 | MM-131 | 48 | .03 | .90 |
| 2276 | 43 | 4.8 | 6.50 | 8731A | 39 | 1. | 1.40 | † S-10 | | 1.8 | 2.70 | XX-131 | 60 | .93 | 3.30 |
| 2277 | 43 | 6.1 | 7.75 | 8731B | 39 | 1. | 1.40 | S-10P | 63 | 1.8 | 2.70 | B-140 | 50 | .13 | 2.46 |
| 2278 | 43 | 8.2 | 9.25 | † 8733 | | 1.4 | 1.85 | F-15 | 50 | 1.1 | 2.10 | II-140 | 58 | 1.2 | 7.50 |
| 2279 | 43 | 10. | 11.00 | † 8735 | | 2.3 | 3.30 | MR-15 | 65 | .075 | 1.00 | S-140 | 53 | .34 | 2.70 |
| 2280 | 43 | 12.5 | 14.00 | 8735A | 39 | 2.3 | 3.30 | † S-15 | | 2. | 2.70 | B-150 | 50 | .03 | .54 |
| 2280A | 43 | 12.5 | 14.00 | 8807 | 38 | 2.15 | 4.75 | S-15P | 63 | 2. | 2.70 | II-150 | 58 | .27 | 1.20 |
| 6723 | 38 | .08 | .95 | 8808 | 38 | 2.55 | 5.00 | MR-20A | 50 | .26 | 1.35 | III-150 | 58 | .2 | 1.50 |
| 6725 | 38 | .11 | 1.00 | 8809 | 38 | 3.63 | 6.10 | H-20A | 58 | 2.7 | 3.30 | MM-150 | 48 | .03 | .60 |
| 6725B | 38 | .14 | 1.00 | 8810 | 38 | 3.88 | 6.85 | NM-20A | 48 | .1 | 1.02 | X-150 | 60 | .54 | 1.68 |
| 6727 | 38 | .18 | 1.10 | 8811 | 38 | 5.38 | 7.15 | S-20A | 53 | .90 | 2.10 | XX-150 | 60 | .53 | 2.70 |
| † 7023 | | .16 | .95 | 8812 | 38 | 5.5 | 7.50 | † S-20C | | .9 | 2.25 | NM-406 | 48 | .025 | .45 |
| 7025 | 38 | .22 | 1.00 | 8813 | 38 | 7.18 | 9.35 | NX-20B | 60 | 4.4 | 2.10 | NM-407 | 48 | .025 | .45 |
| † 7029 | | .51 | 1.35 | 8814 | 38 | 7.01 | 10.35 | NX-20C | 60 | 1.36 | 3.00 | NM-408 | 48 | .025 | .45 |
| 7033 | 38 | .05 | 1.85 | 8815 | 38 | 9.60 | 11.50 | | | | | | | | |
| 7033C | 38 | .05 | 1.85 | 8816 | 38 | 10.78 | 12.75 | | | | | | | | |
| † 7034 | | 1.2 | 2.95 | 8909 | 38 | 3.84 | 4.40 | | | | | | | | |

† Discontinued

*In Leatherette Roll

LIST PRICES AND WEIGHTS OF WILLIAMS' WRENCHES

ARRANGED NUMERICALLY

| Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price |
|-----------------------|------|-------------------|------------|--|------|-------------------|------------|--|------|-------------------|------------|--|------|-------------------|------------|
| "ALWAYS READY" | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | |
| | | Per Dos. | Finished | | | Finished | | | | Finished | | | | Finished | |
| 1 | 30 | 4.4 | \$ 1.25 | † 1006A | | .92 | \$ 1.50 | † 1083B | | 1. | \$ 2.30 | 1206B | 35 | 1. | \$ 1.86 |
| 2 | 30 | 9. | 1.55 | † 1007 | | 1.5 | 1.88 | † 1083J | | 1. | 2.30 | 1207 | 35 | 1.8 | 2.60 |
| † 2 1/2 | | 20. | 2.40 | † 1008 | | 2.2 | 2.50 | † 1083K | | 1. | 2.30 | 1207A | 35 | 1.8 | 2.60 |
| 3 | 30 | 32. | 3.50 | † 1008A | | 2.2 | 2.50 | † 1085 | | 1.7 | 3.30 | 1208 | 35 | 2.7 | 3.50 |
| † Bull T. | | 3.7 | .75 | † 1009 | | 2.8 | 3.80 | † 1085B | | 1.7 | 3.30 | 1208A | 35 | 2.7 | 3.50 |
| | | | | † 1010 | | 3.0 | 5.30 | † 1085C | | 1.7 | 3.30 | 1209 | 35 | 3.6 | 4.80 |
| | | | | † 1010A | | 3.9 | 5.30 | † 1085H | | 1.7 | 3.30 | 1209A | 35 | 3.6 | 4.80 |
| | | | | † 1011 | | 4.8 | 6.90 | † 1085J | | 1.7 | 3.30 | 1210 | 35 | 5.1 | 6.80 |
| | | | | † 1011A | | 4.8 | 6.90 | † 1085K | | 1.7 | 3.30 | 1211 | 35 | 7. | 10.00 |
| | | | | † 1012 | | 0.2 | 9.40 | 1090 | 43 | .09 | .76 | 1212 | 35 | 7. | 10.00 |
| | | | | † 1012A | | 6.2 | 9.40 | 1090A | 43 | .09 | .76 | | | | |
| | | | | † 1013 | | 8. | 12.15 | 1090B | 43 | .09 | .76 | † 1471 | | .28 | 3.05 |
| | | | | † 1013A | | 8. | 12.15 | 1090C | 43 | .09 | .76 | † 1472 | | .54 | 3.50 |
| | | | | † 1014 | | 10. | 15.30 | 1090D | 43 | .10 | .76 | † 1474 | | .04 | 4.85 |
| | | | | † 1014A | | 10. | 15.30 | 1090E | 43 | .10 | .76 | | | | |
| | | | | 1021S | 32 | .09 | .58 | 1090F | 43 | .10 | .76 | 1519 | 71 | .08 | 1.85 |
| | | | | 1021 | 32 | .09 | .58 | 1092 | 43 | .22 | .82 | 1520 | 71 | .57 | 2.20 |
| | | | | † 1022 | | .12 | .69 | 1092B | 43 | .22 | .82 | † 1700 | | .09 | .47 |
| | | | | 1023 | 32 | .12 | .69 | 1092C | 43 | .22 | .82 | † 1701 | | .13 | .56 |
| | | | | † 1024 | | .18 | .82 | 1092D | 43 | .22 | .82 | † 1702 | | .22 | .70 |
| | | | | 1025 | 32 | .18 | .82 | 1092F | 43 | .22 | .82 | † 1703 | | .33 | .85 |
| | | | | † 1025A | | .18 | .82 | 1094 | 43 | .34 | .88 | † 1704 | | .48 | 1.05 |
| | | | | † 1026 | | .26 | 1.00 | 1094A | 43 | .38 | .88 | † 1705 | | .65 | 1.25 |
| | | | | 1027 | 32 | .26 | 1.00 | 1094B | 43 | .38 | .88 | † 1706 | | .92 | 1.50 |
| | | | | 1027C | 32 | .26 | 1.00 | 1094D | 43 | .34 | .88 | † 1707 | | 1.5 | 1.88 |
| | | | | † 1028 | | .37 | 1.24 | 1094F | 43 | .34 | .88 | † 1709 | | 2.7 | 3.80 |
| | | | | 1028S | 32 | .37 | 1.24 | 1094G | 43 | .34 | .88 | | | | |
| | | | | 1029 | 32 | .49 | 1.24 | 1096 | 43 | .41 | 1.06 | 1721 | 32 | .08 | .58 |
| | | | | † 1030 | | .49 | 1.24 | 1096A | 43 | .47 | 1.06 | † 1722 | | .10 | .58 |
| | | | | 1031 | 32 | .66 | 1.65 | † 1096B | | .47 | 1.06 | 1723 | 32 | .10 | .58 |
| | | | | † 1032 | | .79 | 1.65 | † 1096F | | .41 | 1.06 | 1723A | 32 | .11 | .69 |
| | | | | 1033 | 32 | .79 | 1.65 | 1096H | 43 | .41 | 1.06 | 1725 | 32 | .16 | .82 |
| | | | | 1033A | 32 | .79 | 1.65 | 1106 | 44 | .02 | .65 | † 1725A | | .16 | .82 |
| | | | | 1033C | 32 | .89 | 2.25 | 1107 | 44 | .02 | .65 | 1725B | 32 | .16 | .82 |
| | | | | 1034 | 32 | 1.2 | 2.25 | 1108 | 44 | .03 | .72 | † 1726 | | .26 | 1.00 |
| | | | | 1034A | 32 | 1.2 | 2.25 | 1109 | 44 | .03 | .72 | 1727 | 32 | .26 | 1.00 |
| | | | | 1035 | 32 | 1.2 | 2.25 | 1112 | 44 | .01 | .65 | † 1728 | | .37 | 1.24 |
| | | | | † 1036 | | 1.7 | 3.15 | 1113 | 44 | .01 | .65 | 1729 | 32 | .37 | 1.24 |
| | | | | 1037 | 32 | 1.7 | 3.15 | 1114 | 44 | .01 | .65 | † 1730 | | .40 | 1.24 |
| | | | | 1037A | 32 | 1.7 | 3.15 | 1115 | 44 | .01 | .65 | 1731 | 32 | .6 | 1.65 |
| | | | | † 1038 | | 2.1 | 4.90 | 1116 | 44 | .01 | .65 | 1731A | 32 | .6 | 1.65 |
| | | | | 1039 | 32 | 2.2 | 4.90 | 1118 | 44 | .03 | .72 | 1731B | 32 | .6 | 1.65 |
| | | | | 1039A | 32 | 2.2 | 4.90 | 1120 | 44 | .03 | .72 | 1731BR | 42 | .98 | 4.30 |
| | | | | 1040 | 32 | 2.2 | 4.90 | 1122 | 44 | .04 | .72 | † 1732 | | .70 | 1.65 |
| | | | | 1041 | 32 | 4.1 | 8.80 | 1124 | 44 | .04 | .72 | † 1732A | | .70 | 1.65 |
| | | | | † 1075 | | .20 | .93 | 1128 | 44 | .07 | .82 | 1733 | 32 | .80 | 2.25 |
| | | | | † 1075A | | .20 | .93 | 1132 | 44 | .07 | .82 | † 1734 | | 1.2 | 2.25 |
| | | | | † 1075B | | .20 | .93 | 1160 | 41 | .08 | 1.15 | 1735 | 32 | 1.7 | 3.15 |
| | | | | † 1077 | | .27 | 1.18 | 1161 | 41 | .09 | 1.18 | 1735BR | 42 | 1.86 | 5.75 |
| | | | | † 1077B | | .27 | 1.18 | 1162 | 41 | .13 | 1.28 | † 1736 | | 1.7 | 3.15 |
| | | | | † 1077C | | .27 | 1.18 | 1163 | 41 | .21 | 1.40 | † 1736A | | 1.7 | 3.15 |
| | | | | † 1077E | | .27 | 1.18 | 1164 | 41 | .28 | 1.55 | 1737 | 32 | 1.7 | 3.15 |
| | | | | † 1077S | | .27 | 1.18 | 1165 | 41 | .38 | 1.70 | † 1738 | | 2.3 | 4.90 |
| | | | | † 1079 | | .46 | 1.45 | 1166 | 41 | .5 | 1.85 | † 1739 | | 2.3 | 4.90 |
| | | | | † 1079A | | .46 | 1.45 | 1167 | 41 | .75 | 2.00 | † 1739A | | 2.3 | 4.90 |
| | | | | † 1079B | | .46 | 1.45 | 1167A | 41 | .75 | 2.00 | † 1739B | | 2.3 | 4.90 |
| | | | | † 1079C | | .46 | 1.45 | 1168 | 41 | 1.13 | 2.15 | | | | |
| | | | | † 1079E | | .46 | 1.45 | 1170 | 41 | 1.13 | 2.15 | 1800A | 37 | .07 | .61 |
| | | | | † 1079S | | .46 | 1.45 | 1171 | 41 | 1.75 | 2.40 | 1801 | 37 | .11 | .73 |
| | | | | † 1081 | | .72 | 1.75 | 1173 | 41 | 2.66 | 2.90 | 1802 | 37 | .19 | .86 |
| | | | | † 1081A | | .72 | 1.75 | 1176 | 41 | 3.88 | 3.45 | 1802A | 37 | .19 | .86 |
| | | | | † 1081B | | .72 | 1.75 | 1203 | 35 | .52 | 1.43 | 1803 | 37 | .31 | 1.00 |
| | | | | † 1081H | | .72 | 1.75 | 1203A | 35 | .52 | 1.43 | 1803A | 37 | .31 | 1.00 |
| | | | | † 1083 | | 1. | 2.30 | 1205 | 35 | 1. | 1.86 | 1804 | 37 | .36 | 1.15 |
| | | | | † 1083A | | 1. | 2.30 | 1205A | 35 | 1. | 1.86 | 1804A | 37 | .36 | 1.15 |
| | | | | | | | | | | | | 1805 | 37 | .45 | 1.40 |

† Discontinued

3-43

LIST PRICES AND WEIGHTS OF WILLIAMS' WRENCHES

ARRANGED NUMERICALLY

| Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price |
|--|------|-------------------|------------|--|------|-------------------|------------|---|------|-------------------|------------|-----------------------|------|-------------------|------------|
| "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERRENCHES" (Chrome-Molybdenum) | | | | "SUPERSOCKETS" | | | |
| Finished | | | | Finished | | | | Finished | | | | | | | |
| 1805A | 37 | .45 | \$ 1.40 | † 7034A | .. | 1.3 | \$ 2.95 | 8910 | 30 | 4.64 | \$ 5.15 | † B-21 | .. | .50 | \$ 4.50 |
| 1806 | 37 | .08 | 1.70 | † 7037 | .. | 1.8 | 3.30 | 8911 | 30 | 5.88 | 5.50 | B-30 | 50 | .5 | 1.50 |
| 1806A | 37 | .08 | 1.70 | † 7037A | .. | 2.4 | 3.80 | 8912 | 36 | 6.51 | 5.85 | SB-30 | 53 | .14 | 1.02 |
| 1806B | 37 | .08 | 1.70 | 7039 | 38 | 2.4 | 3.80 | 8913 | 36 | 8.41 | 7.65 | B-40 | 50 | .57 | 2.70 |
| 1807 | 37 | .89 | 2.05 | 7039A | 38 | 2.4 | 3.80 | 8914 | 36 | 9.5 | 8.65 | S-40 | 53 | 1.4 | 3.90 |
| 1807A | 37 | .89 | 2.05 | † 7721 | .. | .11 | .80 | 8924 | 45 | .26 | 1.15 | SB-40 | 53 | .10 | 1.38 |
| 1808 | 37 | 1.5 | 2.60 | 7723 | 38 | .13 | .95 | 8928 | 45 | .20 | 1.15 | II-41 | 58 | 4.03 | 6.15 |
| 1808A | 37 | 1.5 | 2.60 | 7725 | 38 | .16 | .95 | 8930 | 45 | .20 | 1.15 | II-41B | 58 | 2. | 1.10 |
| 1809 | 37 | 1.9 | 3.50 | 7725B | 38 | .22 | 1.00 | 8932 | 45 | .25 | 1.15 | S-41 | 53 | 1.0 | 4.50 |
| 1809A | 37 | 1.9 | 3.50 | 7727 | 38 | .31 | 1.05 | 8934 | 45 | .22 | 1.15 | B-42 | 50 | .01 | 2.70 |
| 1810 | 37 | 2.9 | 4.70 | 7727A | 38 | .48 | 1.20 | 8936 | 45 | .22 | 1.15 | B-42B | 50 | .15 | .40 |
| 1810A | 37 | 2.9 | 4.70 | 7729 | 38 | .48 | 1.20 | 9723 | 30 | .10 | .95 | NM-42 | 48 | .25 | 1.40 |
| 1811 | 37 | 3.1 | 6.20 | 7729A | 38 | .60 | 1.40 | 9725 | 30 | .10 | 1.00 | NM-42B | 48 | .08 | .25 |
| 1811A | 37 | 3.1 | 6.20 | 7731A | 38 | .60 | 1.40 | 9725B | 30 | .22 | 1.00 | S-42 | 53 | 1.8 | 3.90 |
| 1812 | 37 | 4.3 | 8.05 | 7731B | 38 | .60 | 1.55 | 9727 | 30 | .29 | 1.10 | S-42B | 53 | .35 | .60 |
| II-1808 | 37 | 1.6 | 3.45 | † 7733 | .. | .04 | 1.85 | "SUPERRENCH" SETS (Chrome-Molybdenum) | | | | B-50 | 50 | .43 | 3.60 |
| II-1808A | 37 | 1.6 | 3.45 | † 7735 | .. | 2. | 3.30 | Finished | | | | B-50A | 50 | .43 | 3.60 |
| II-1809 | 37 | 2.3 | 4.65 | 7735A | 38 | 2. | 3.30 | 106 | 42 | 1.82 | \$ 7.85 | B-50B | 50 | .43 | 3.30 |
| II-1809A | 37 | 2.3 | 4.65 | 7737 | 38 | 2.4 | 3.80 | 108 | 42 | 2.08 | *10.30 | II-50 | 58 | 5.3 | 10.50 |
| II-1810 | 37 | 3.1 | 6.25 | 8021 | 30 | .18 | .80 | † 1001 | .. | 60. | 154.60 | S-50 | 53 | 1.3 | 4.50 |
| II-1810A | 37 | 3.1 | 6.25 | † 8023 | .. | .37 | .95 | 1001A | 62 | 60. | 152.50 | NX-50 | 60 | 6.3 | 16.20 |
| II-1811 | 37 | 3.8 | 8.25 | 8025 | 30 | .43 | 1.00 | 1025 | 33 | 2.7 | *8.65 | B-51 | 50 | .44 | 4.50 |
| II-1811A | 37 | 3.8 | 8.25 | † 8029 | .. | .84 | 1.35 | 1140 | 44 | .30 | 7.45 | B-51A | 50 | .44 | 4.50 |
| II-1812 | 37 | 5.4 | 10.70 | 8033 | 30 | 1.3 | 1.65 | 1140P | 44 | .5 | 9.30 | NM-51 | 48 | .16 | 4.00 |
| II-1813 | 37 | 6.5 | 13.55 | 8033C | 30 | 1.14 | 1.85 | 1148P | 44 | .23 | 5.15 | S-51 | 53 | 1.4 | 6.75 |
| II-1813A | 37 | 6.5 | 13.55 | † 8034 | .. | 1.3 | 2.95 | 1168S | 41 | .8 | 5.40 | S-57 | 53 | 3.68 | 26.00 |
| II-1814 | 37 | 7.8 | 16.90 | † 8034A | .. | 1.3 | 2.95 | 1169S | 41 | 1.60 | 8.95 | B-108 | 50 | .10 | 1.08 |
| II-1815 | 37 | 10.3 | 28.05 | † 8037 | .. | 2.1 | 3.30 | † 1284 | .. | 1.20 | 9.72 | NM-102 | 48 | .06 | .85 |
| II-1815A | 37 | 10.3 | 28.05 | † 8037A | .. | 3.3 | 3.80 | † 1284P | .. | 1.36 | 11.64 | B-110 | 50 | .23 | 1.08 |
| II-1816 | 37 | 12.5 | 40.20 | 8039 | 30 | 3.3 | 3.80 | 1285 | 40 | 1.20 | 9.70 | II-110 | 58 | 1.5 | 2.70 |
| II-1817 | 37 | 16.3 | 55.00 | 8039A | 30 | 3.3 | 3.80 | 1285P | 40 | 1.30 | 11.55 | NM-110 | 48 | .34 | 1.44 |
| II-1817A | 37 | 16.3 | 55.00 | 8041 | 30 | 5.70 | 4.95 | † 1290 | .. | 1.45 | 14.00 | † S-110 | .. | .81 | 1.80 |
| 1903 | 35 | 6.3 | 1.68 | 8045 | 30 | 8.43 | 8.45 | † 1290P | .. | 1.53 | 15.85 | S-110P | 53 | .53 | 1.20 |
| 1903A | 35 | 6.3 | 1.68 | † 8048 | .. | 9.88 | 9.80 | 1291 | 40 | 1.45 | 14.00 | NX-110 | 60 | 3.68 | 5.25 |
| 1905 | 35 | 1.2 | 2.25 | 8049 | 30 | 10.20 | 10.60 | 1291P | 40 | 1.53 | 15.85 | B-115 | 50 | .44 | 1.20 |
| 1905A | 35 | 1.2 | 2.25 | 8053 | 30 | 14.65 | 16.25 | † 1400 | .. | 1.93 | *12.10 | II-115 | 58 | 2.8 | 3.30 |
| 1906 | 35 | 1.2 | 2.25 | † 8128 | .. | .27 | 1.35 | † 1712 | .. | 2.87 | *30.20 | NM-115 | 48 | .17 | 1.08 |
| 1907 | 35 | 1.9 | 3.15 | † 8132 | .. | .30 | 1.45 | 6703 | 40 | .41 | 3.05 | † S-115 | .. | 1.3 | 2.10 |
| 1907A | 35 | 1.9 | 3.15 | † 8136 | .. | .5 | 1.55 | † 7006 | .. | 3.06 | 7.60 | S-115P | 53 | 1.0 | 1.65 |
| 1908 | 35 | 2.8 | 4.25 | † 8140 | .. | .61 | 1.65 | † 8005 | .. | 4.20 | 8.10 | NX-115 | 60 | 7.08 | 6.40 |
| 1908A | 35 | 2.8 | 4.25 | † 8148 | .. | .86 | 1.80 | † 8006 | .. | 3.54 | 7.60 | BM-130 | 50 | .05 | .90 |
| 1909 | 35 | 4.1 | 5.85 | 8723 | 30 | .26 | .95 | † 8105 | 41 | 2.91 | 7.80 | BS-130 | 50 | .13 | 1.02 |
| 1910 | 35 | 5.6 | 8.10 | 8725 | 30 | .37 | .95 | 9703 | 40 | .7 | 3.05 | II-NX-130 | 58 | 1.09 | 1.50 |
| 1911 | 35 | 7.9 | 12.25 | 8725B | 30 | .43 | 1.00 | "SUPERSOCKETS" | | | | II-X-130 | 58 | .59 | 1.50 |
| 1912 | 35 | 7.9 | 12.25 | 8727 | 30 | .50 | 1.05 | MR-2 | 65 | .025 | .75 | MM-130 | 48 | .02 | .90 |
| † 1999 | .. | 1.2 | 4.00 | 8727A | 30 | .8 | 1.20 | MR-4 | 65 | .034 | .75 | SH-130 | 53 | .31 | 1.20 |
| 2273 | 43 | 2.7 | 4.80 | 8729 | 30 | .8 | 1.20 | MR-6 | 65 | .063 | .75 | XX-130 | 60 | 1.17 | 3.30 |
| 2274 | 43 | 3.9 | 5.40 | 8729A | 30 | 1. | 1.40 | MR-8 | 65 | .094 | .75 | BS-131 | 50 | .15 | 1.02 |
| 2276 | 43 | 4.8 | 6.50 | 8731A | 30 | 1. | 1.40 | MR-10 | 65 | .125 | .75 | MM-131 | 48 | .03 | .90 |
| 2277 | 43 | 6.1 | 7.75 | 8731B | 30 | 1. | 1.40 | † S-10 | .. | 1.8 | 2.70 | XX-131 | 60 | .93 | 3.30 |
| 2278 | 43 | 8.2 | 9.25 | † 8733 | .. | 1.4 | 1.85 | S-10P | 53 | 1.8 | 2.70 | B-140 | 50 | .13 | 2.46 |
| 2279 | 43 | 10. | 11.00 | † 8735 | .. | 2.3 | 3.30 | F-15 | 50 | 1.1 | 2.10 | II-140 | 58 | 1.2 | 7.50 |
| 2280 | 43 | 12.5 | 14.00 | 8735A | 30 | 2.3 | 3.30 | MR-15 | 65 | .075 | 1.00 | S-140 | 53 | .34 | 2.70 |
| 2280A | 43 | 12.5 | 14.00 | 8807 | 36 | 2.15 | 4.75 | † S-15 | .. | 2. | 2.70 | B-150 | 50 | .03 | .54 |
| 6723 | 38 | .08 | .95 | 8808 | 36 | 2.55 | 5.00 | S-15P | 63 | 2. | 2.70 | II-150 | 58 | .27 | 1.20 |
| 6725 | 38 | .11 | 1.00 | 8809 | 36 | 3.63 | 6.10 | B-20A | 50 | .20 | 1.35 | III-150 | 58 | .2 | 1.50 |
| 6725B | 38 | .14 | 1.00 | 8810 | 36 | 3.88 | 6.85 | H-20A | 58 | 2.7 | 3.30 | MM-150 | 48 | .03 | .60 |
| 6727 | 38 | .18 | 1.10 | 8811 | 36 | 5.38 | 7.15 | NM-20A | 48 | .1 | 1.02 | X-150 | 60 | .54 | 1.68 |
| † 7023 | .. | .16 | .95 | 8812 | 36 | 5.5 | 7.50 | S-20A | 53 | .96 | 2.10 | XX-150 | 60 | .53 | 2.70 |
| 7025 | 38 | .22 | 1.00 | 8813 | 36 | 7.18 | 9.35 | † S-20C | .. | .9 | 2.25 | NM-406 | 48 | .025 | .45 |
| † 7029 | .. | .51 | 1.35 | 8814 | 36 | 7.91 | 10.35 | NX-20B | 60 | 4.4 | 2.10 | NM-407 | 48 | .025 | .45 |
| 7033 | 38 | .95 | 1.85 | 8815 | 36 | 9.69 | 11.50 | NX-20C | 60 | 1.30 | 3.00 | NM-408 | 48 | .025 | .45 |
| 7033C | 38 | .95 | 1.85 | 8816 | 36 | 10.78 | 12.75 | | | | | | | | |
| † 7034 | .. | 1.2 | 2.95 | 8909 | 36 | 3.84 | 4.40 | | | | | | | | |

† Discontinued

*In Leatherette Roll

LIST PRICES AND WEIGHTS OF WILLIAMS' WRENCHES

ARRANGED NUMERICALLY

| Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price | Wrench No. | Page | Weight Each, Lbs. | List Price |
|-----------------------|------|-------------------|------------|-----------------------|------|-------------------|------------|--|------|-------------------|------------|--|------|-------------------|------------|
| "SUPERSOCKETS" | | | | "SUPERSOCKETS" | | | | "SUPERSOCKETS" | | | | "SUPERECTOR" Wrenches and Sockets | | | |
| S-410 | 52 | .14 | \$.72 | B-1220 | 50 | .09 | \$.72 | H-1258 | 58 | 1.9 | \$ 2.95 | E1-416 | 46 | 2.0 | \$4.85 |
| S-412 | 52 | .14 | .72 | BD-1220 | 50 | .163 | .77 | NX-1258 | 60 | 2.14 | 4.20 | E1-417 | 46 | 2.6 | 4.85 |
| S-414 | 52 | .14 | .72 | BU-1220 | 50 | .11 | 2.55 | H-1260 | 58 | 1.9 | 2.95 | E1-418 | 46 | 2.6 | 4.90 |
| S-416 | 52 | .17 | .72 | | | | | H-1264 | 58 | 2.1 | 3.50 | E1-420 | 46 | 2.6 | 5.00 |
| S-418 | 52 | .23 | .72 | SD-1220 | 52 | .26 | 1.26 | | | | | E1-421 | 46 | 2.6 | 5.10 |
| S-0418 | 52 | .14 | .90 | ST-1220 | 52 | .14 | .72 | NX-1264 | 60 | 2.42 | 4.80 | E1-423 | 46 | 2.8 | 5.20 |
| S-420 | 52 | .3 | .72 | † ST-1221 | | .14 | .72 | † H-1266 | | 2.5 | 4.10 | E1-424 | 46 | 2.8 | 5.30 |
| S-422 | 52 | .32 | .84 | | | | | † H-1268 | | 2.6 | 4.40 | E1-426 | 46 | 2.9 | 5.40 |
| S-424 | 52 | .38 | .90 | B-1222 | 50 | .11 | .84 | † H-1270 | | 2.6 | 4.70 | E1-429 | 46 | 3.3 | 5.65 |
| S-428 | 52 | .53 | .90 | BD-1222 | 50 | .218 | .90 | | | | | E1-430 | 46 | 3.3 | 5.75 |
| S-432 | 52 | .65 | 1.20 | SD-1222 | 52 | .26 | 1.26 | NX-1270 | 60 | 3.03 | 6.30 | E1-432 | 46 | 3.5 | 5.90 |
| | | | | ST-1222 | 52 | .16 | .84 | † H-1272 | | 2.5 | 5.30 | E1-435 | 46 | 4. | 6.20 |
| AM-604 | 69 | .031 | .60 | B-1224 | 50 | .13 | .84 | NX-1276 | 60 | 3.64 | 7.50 | E1-436 | 46 | 4. | 6.40 |
| AM-605 | 69 | .031 | .60 | | | | | NX-1280 | 60 | 3.16 | 10.50 | | | | |
| AM-606 | 69 | .031 | .60 | BD-1224 | 50 | .215 | 1.00 | "SUPERSOCKET" SETS | | | | E1-617 | 46 | 2.6 | 4.85 |
| NM-606 | 48 | .014 | .45 | SD-1224 | 52 | .37 | 1.26 | 5 | 51 | 6.5 | \$ 24.40 | E1-618 | 46 | 2.6 | 4.90 |
| AM-607 | 69 | .032 | .60 | ST-1224 | 52 | .19 | .90 | † 6 | | 7.25 | 27.65 | E1-620 | 46 | 2.5 | 5.00 |
| NM-607 | 48 | .018 | .45 | ST-1225 | 52 | .21 | .90 | 6-B | 51 | 7.25 | 25.50 | E1-621 | 46 | 2.5 | 5.10 |
| AB-608 | 69 | .056 | .75 | SD-1226 | 52 | .37 | 1.26 | † 7 | | 9.5 | 46.10 | E1-623 | 46 | 2.5 | 5.20 |
| † B-608 | | .04 | .72 | ST-1226 | 52 | .24 | .90 | 7-A | 51 | 9.5 | 43.95 | E1-624 | 46 | 2.5 | 5.30 |
| | | | | | | | | R-19 | 65 | 2.75 | 18.50 | E1-626 | 46 | 2.6 | 5.40 |
| NM-608 | 48 | .019 | .45 | † H-1228 | | .41 | 1.08 | 20 | 55 | 23. | 42.20 | | | | |
| NM-609 | 48 | .019 | .45 | SD-1228 | 52 | .45 | 1.26 | 21 | 54 | 6.75 | 14.70 | E1-627 | 46 | 2.6 | 5.50 |
| AB-610 | 69 | .063 | .75 | SD-1228T | 52 | .29 | 1.26 | 21R | 54 | 4.88 | 16.45 | E1-628 | 46 | 2.6 | 5.60 |
| AS-612 | 69 | .113 | .85 | ST-1228 | 52 | .28 | .90 | 26 | 55 | 25.5 | 49.60 | E1-629 | 46 | 2.8 | 5.65 |
| AS-616 | 69 | .125 | .85 | H-1230 | 58 | .4 | 1.08 | 30 | 56 | 25.5 | 48.85 | E1-630 | 46 | 2.8 | 5.75 |
| AS-618 | 69 | .138 | .85 | HD-1230 | 58 | .75 | 1.62 | 36 | 56 | 27.75 | 55.85 | E1-632 | 46 | 3.2 | 5.90 |
| AS-620 | 69 | .144 | .85 | SD-1230 | 52 | .51 | 1.38 | 50 | 59 | 28.75 | 48.54 | E1-633 | 46 | 3.2 | 6.00 |
| | | | | ST-1230 | 52 | .32 | 1.08 | 51 | 59 | 22.25 | 30.54 | E1-635 | 46 | 3.6 | 6.20 |
| NX-682 | 60 | 6.33 | 12.00 | | | | | 55 | 57 | 43.5 | 87.85 | E1-636 | 46 | 3.6 | 6.40 |
| NX-688 | 60 | 6.7 | 16.50 | † H-1231 | | .43 | 1.08 | 55A | 57 | 41.5 | 83.35 | | | | |
| NM-810 | 48 | .031 | .45 | ST-1231 | 52 | .34 | 1.08 | 76 | 61 | 53. | 77.00 | E2-432 | 46 | 5.7 | 9.70 |
| NM-812 | 48 | .05 | .45 | H-1232 | 58 | .5 | 1.08 | 81 | 61 | 32. | 44.25 | E2-435 | 46 | 6. | 10.00 |
| | | | | SD-1232 | 52 | .52 | 1.50 | | | | | E2-438 | 46 | 6.5 | 10.40 |
| BD-814 | 50 | .094 | .85 | ST-1232 | 52 | .38 | 1.08 | | | | | E2-441 | 46 | 7.1 | 10.80 |
| BD-816 | 50 | .131 | .85 | H-1234 | 58 | .51 | 1.32 | AL-100 | 60 | 10. | 25.00 | E2-444 | 46 | 7.9 | 11.30 |
| BD-818 | 50 | .138 | .92 | HD-1234 | 58 | .90 | 1.86 | † AL-101 | | 10. | 27.75 | E2-447 | 46 | 9. | 11.85 |
| BD-820 | 50 | .175 | .92 | | | | | † 300 | | 44. | 114.30 | E2-450 | 46 | 10. | 12.40 |
| | | | | S-1234 | 52 | .30 | 1.20 | † 600 | | 130. | 243.30 | | | | |
| † B-1210 | | .04 | .72 | NX-1234 | 60 | 1.13 | 1.80 | † 1001 | | 69. | 154.60 | E2-632 | 46 | 5.5 | 9.70 |
| NM-1210 | 48 | .022 | .45 | H-1236 | 58 | .58 | 1.38 | 1001-A | 62 | 60 | 152.50 | E2-635 | 46 | 5.8 | 10.00 |
| † B-1211 | | .05 | .72 | S-1236 | 52 | .43 | 1.32 | † 1268 | | 1.00 | 6.96 | E2-638 | 46 | 6.3 | 10.40 |
| NM-1211 | 48 | .025 | .45 | SD-1236 | 52 | .74 | 1.68 | † 1268P | | 1.20 | 8.88 | E2-641 | 46 | 6.7 | 10.80 |
| B-1212 | 50 | .05 | .72 | NX-1236 | 60 | 1.15 | 1.80 | 1269 | 49 | 1.00 | 6.95 | E2-644 | 46 | 7.2 | 11.30 |
| NM-1212 | 48 | .031 | .45 | H-1238 | 58 | .69 | 1.38 | 1269P | 49 | 1.20 | 8.80 | E2-647 | 46 | 8. | 11.85 |
| B-1214 | 50 | .05 | .72 | S-1238 | 62 | .51 | 1.38 | 1269PR | 49 | 1.5 | 12.90 | E2-650 | 46 | 9. | 12.40 |
| | | | | | | | | † 1284 | | 1.20 | 9.72 | | | | |
| BD-1214 | 50 | .10 | .77 | H-1240 | 58 | .67 | 1.56 | † 1284P | | 1.36 | 11.64 | E3-450 | 46 | 18. | 20.10 |
| BU-1214 | 50 | .09 | 2.30 | HD-1240 | 58 | 1.2 | 2.28 | 1285 | 49 | 1.29 | 9.70 | E3-456 | 46 | 17. | 20.80 |
| NM-1214 | 48 | .038 | .45 | S-1240 | 52 | .53 | 1.44 | 1285P | 49 | 1.30 | 11.55 | E3-462 | 46 | 18.3 | 21.60 |
| ST-1214 | 52 | .11 | .72 | NX-1240 | 60 | 1.23 | 1.98 | 1286PR | 49 | 2.06 | 18.50 | E3-468 | 46 | 19.9 | 22.55 |
| B-1216 | 50 | .06 | .72 | H-1242 | 58 | .78 | 1.56 | † 1290 | | 1.45 | 14.00 | E3-474 | 46 | 22.5 | 23.65 |
| BD-1216 | 50 | .10 | .77 | | | | | † 1290P | | 1.53 | 15.85 | | | | |
| BU-1216 | 50 | .09 | 2.30 | H-1244 | 58 | .78 | 1.56 | 1291 | 49 | 1.45 | 14.00 | E3-650 | 46 | 14.9 | 20.10 |
| SD-1216 | 52 | .27 | 1.14 | NX-1244 | 60 | 1.29 | 2.10 | 1291P | 49 | 1.53 | 15.85 | E3-656 | 46 | 15.6 | 20.80 |
| ST-1216 | 52 | .12 | .72 | HD-1246 | 58 | 1.6 | 2.52 | 1292PR | 49 | 2.41 | 23.80 | E3-662 | 46 | 16.8 | 21.60 |
| | | | | NX-1246 | 60 | 1.33 | 2.22 | "SUPERECTOR" Wrenches and Sockets | | | | E3-668 | 46 | 17.9 | 22.55 |
| B-1218 | 50 | .07 | .72 | | | | | E1-24 | 46 | 9.3 | \$ 12.60 | E3-674 | 46 | 18.4 | 23.65 |
| BD-1218 | 50 | .125 | .77 | H-1248 | 58 | 1. | 1.86 | E1-36 | 46 | 12.8 | 19.80 | "SUPERECTOR" SET | | | |
| BU-1218 | 50 | .10 | 2.55 | NX-1248 | 60 | 1.43 | 2.70 | E2-36 | 46 | 20.9 | 25.20 | E1-12 | 46 | 42. | \$ 71.25 |
| SD-1218 | 52 | .26 | 1.14 | H-1252 | 58 | 1. | 2.16 | E2-48 | 46 | 24. | 32.40 | | | | |
| SD-1218S | 52 | .24 | 1.30 | | | | | | | | | | | | |
| SF-1218 | 52 | .13 | 1.00 | NX-1252 | 60 | 1.85 | 3.00 | | | | | | | | |
| ST-1218 | 52 | .11 | .72 | H-1254 | 58 | 1.3 | 2.70 | | | | | | | | |
| ST-1219 | 52 | .13 | .72 | H-1256 | 58 | 1.3 | 2.70 | | | | | | | | |

† Discontinued

2-43

LIST PRICES AND WEIGHTS OF WILLIAMS' TOOLS

| No. | Page | Weight Each, Lbs. | List Price | No. | Page | Weight Each, Lbs. | List Price | No. | Page | Weight Each, Lbs. | List Price | No. | Page | Weight Each, Lbs. | List Price |
|------------------|------|-------------------|------------|------------------|------|-------------------|------------|--------------|------|-------------------|------------|------------------|------|-------------------|------------|
| PLIERS | | | | CHAIN PIPE TONGS | | | | TOOL HOLDERS | | | | TOOL HOLDERS | | | |
| † 5 | 71 | .27 | \$.65 | A-10 | 81 | 2. | \$ 7.50 | 000L | 87 | .25 | \$2.70 | NS-20 | 92 | .94 | \$4.50 |
| † 6 | 71 | .44 | .70 | A-11 | 81 | 5.75 | 10.50 | 000R | 87 | .25 | 2.70 | N-21R | 93 | 1.4 | * 3.60 |
| † 8 | 71 | .53 | .90 | A-12 | 81 | 10. | 15.00 | 000S | 87 | .25 | 2.70 | NS-21 | 92 | 1.31 | 5.40 |
| † 10 | 71 | .88 | 1.25 | A-13 | 81 | 17. | 21.00 | 00K | 94 | .55 | 5.65 | N-22R | 93 | 2.1 | * 4.50 |
| † 36 | 71 | .5 | .90 | A-13 1/2 | 81 | 24. | 27.00 | 00L | 87 | .46 | 2.70 | NS-22 | 92 | 2.17 | 6.75 |
| † 46 | 71 | .34 | 1.25 | A-14 | 81 | 31. | 33.00 | 00R | 87 | .46 | 2.70 | N-23R | 93 | 3.4 | * 6.50 |
| † 57 | 71 | .47 | 2.38 | A-15 | 81 | 52. | 54.00 | 00S | 87 | .43 | 2.70 | NS-23 | 92 | 3.94 | 9.00 |
| † 76 | 71 | .25 | 2.40 | A-16 | 81 | 137. | 120.00 | 0K | 94 | .65 | 6.00 | N-24R | 93 | 4.4 | * 7.50 |
| † 77 | 71 | .30 | 2.70 | | | | | 0L | 87 | .73 | 2.85 | N-25R | 93 | 4.6 | * 8.60 |
| 1519 | 71 | .08 | 1.85 | 23 | 82 | 10. | 14.00 | 0R | 87 | .73 | 2.85 | N-030L | 93 | .40 | * 2.85 |
| 1520 | 71 | .57 | 2.20 | 23 1/2 | 82 | 28. | 18.00 | 0S | 87 | .69 | 2.85 | N-030R | 93 | .46 | * 2.85 |
| SCREW DRIVERS | | | | 24 | 82 | 41. | 22.00 | 1K | 94 | 1.6 | 6.75 | N-30L | 93 | .75 | * 3.00 |
| † WP-1 | 72 | .08 | \$.60 | 25 | 82 | 65. | 36.00 | 1L | 87 | 1.3 | 3.25 | N-30R | 93 | .75 | * 3.00 |
| † WP-2 | 72 | .19 | .65 | 30 | 82 | 2. | 5.00 | † FT-1L | | 1.22 | 4.40 | NS-30R | 92 | .90 | 4.50 |
| † WP-3 | 72 | .31 | .75 | 31 | 82 | 5.75 | 7.00 | T-0L | 88 | .5 | 3.20 | NS-30RA | 92 | .85 | 4.50 |
| † 4 | 72 | .19 | 1.05 | 32 | 82 | 10. | 10.00 | T-1L | 86 | 1.22 | 3.60 | N-31L | 93 | 1.4 | * 3.60 |
| † CP-4 | 72 | .55 | 2.30 | 33 | 82 | 17. | 14.00 | 1R | 87 | 1.3 | 3.25 | N-31R | 93 | 1.4 | * 3.60 |
| † WP-4 | 72 | .53 | .95 | 33 1/2 | 82 | 24. | 18.00 | † FT-1R | | 1.22 | 4.40 | NS-31R | 92 | 1.47 | 5.40 |
| † 6 | 72 | .38 | 1.40 | 34 | 82 | 31. | 22.00 | T-0R | 86 | .5 | 3.20 | N-32L | 93 | 2.3 | * 4.50 |
| † 6H | 72 | .5 | 1.55 | 35 | 82 | 52. | 36.00 | T-1R | 86 | 1.22 | 3.60 | N-32R | 93 | 2.3 | * 4.50 |
| † 8 | 72 | .50 | 1.75 | | | | | IS | 87 | 1.1 | 3.25 | NS-32R | 92 | 2.38 | 6.75 |
| † 12 | 72 | .75 | 2.10 | 123 1/2 | 82 | 20.75 | 20.00 | † FT-1S | | 1.10 | 4.40 | 33L | 93 | 3.7 | * 6.00 |
| † 24 | 72 | .19 | .95 | 124 | 82 | 30.25 | 26.00 | T-0S | 86 | .5 | 3.20 | N-33R | 93 | 3.7 | * 6.00 |
| † 26 | 72 | .33 | 1.30 | 125 | 82 | 44.75 | 36.00 | T-1S | 86 | 1.10 | 3.60 | NS-33R | 92 | 3.81 | 9.00 |
| † 28 | 72 | .53 | 1.60 | CHAIN PIPE VISES | | | | 2 | 90 | 14.7 | \$ 27.00 | 34L | 93 | 4.9 | * 7.50 |
| † 32 | 72 | .00 | 1.95 | 1 | 77 | 4. | \$ 7.00 | 2K | 94 | 2.25 | 8.00 | N-34R | 93 | 4.9 | * 7.50 |
| † 43 | 72 | .09 | .75 | V-1 | 75 | 35. | 31.00 | 2L | 87 | .5 | 4.00 | 35L | 93 | 5. | * 8.60 |
| † 46 | 72 | .14 | .95 | 2 | 77 | 10. | 15.00 | † FT-2L | | 2.06 | 5.40 | N-35R | 93 | 5. | * 8.60 |
| † 50 | 72 | .17 | 1.10 | 3 | 77 | 18. | 27.00 | T-2L | 86 | 2.06 | 4.50 | C-050 | 80 | .5 | 4.15 |
| † 52 | 72 | .03 | .32 | 4 | 77 | 30. | 36.00 | 2R | 87 | 2.5 | 4.00 | C-50 | 80 | .6 | 4.15 |
| † 62 | 72 | .14 | .65 | | | | | † FT-2R | | 2.00 | 5.40 | S-50 | 80 | 1. | 4.15 |
| † WP-62 | 72 | .09 | .55 | 11 | 76 | 7. | 10.00 | T-2R | 86 | 2.06 | 4.50 | C-51 | 80 | 1.1 | 5.00 |
| PUNCHES | | | | 12 | 76 | 15. | 19.00 | 2S | 87 | 2.1 | 4.00 | C-52 | 80 | 2.2 | 6.40 |
| † P-4 | 73 | .10 | \$.54 | † 21 | .. | 5.75 | 9.60 | † FT-2S | | 2 | 5.40 | S-51 | 80 | 1.6 | 5.00 |
| † P-6 | 73 | .25 | .62 | TOOL POSTS | | | | T-2S | 86 | 2. | 4.50 | S-52 | 89 | 2.7 | 6.40 |
| † P-8 | 73 | .53 | .77 | 5 | 84 | .44 | \$.82 | 3 | 90 | 23.8 | \$ 37.50 | 080 | 91 | 1.3 | * 4.90 |
| † P-13 | 73 | .28 | .62 | 10 | 84 | .81 | 1.05 | 3L | 87 | 3.4 | 5.40 | 80 | 91 | 2.2 | * 4.90 |
| † P-14 | 73 | .41 | .77 | 20 | 84 | 2.1 | 1.40 | † FT-3L | | 3.22 | 7.20 | 81 | 91 | 3.1 | * 5.80 |
| † P-25 | 73 | .22 | .75 | 23 | 84 | 1.6 | 1.65 | T-3L | 86 | 3.22 | 6.00 | 82 | 91 | 0.7 | * 7.65 |
| † P-26 | 73 | .41 | .85 | 28 | 84 | 2.1 | 1.90 | 3R | 87 | 3.4 | 5.40 | 83 | 91 | 10.3 | \$ 10.85 |
| † P-30 | 73 | .13 | .45 | 30 | 84 | 3. | 2.10 | † FT-3R | | 3.22 | 7.20 | 91 | 96 | 2.1 | 4.65 |
| † P-40 | 73 | .16 | .45 | 40 | 84 | 4.7 | 3.05 | T-3R | 86 | 3.22 | 6.00 | 92 | 96 | 3.4 | 6.00 |
| CHISELS | | | | 50 | 84 | 6.6 | 3.95 | 3S | 87 | 3.3 | 5.40 | 93 | 96 | 6. | 7.85 |
| † C-8 | 73 | .06 | \$.54 | 60 | 84 | 13.6 | 7.95 | † FT-3S | | 3.06 | 7.20 | 94 | 96 | 12. | 12.40 |
| † C-12 | 73 | .16 | .62 | TOOL POST WEDGES | | | | T-3S | 86 | 3.06 | 6.00 | 95 | 96 | 20.6 | 21.75 |
| † C-16 | 73 | .31 | .73 | 5 | 84 | .08 | \$.27 | 4 | 90 | 39. | \$ 60.00 | 96 | 96 | 35. | 39.00 |
| † C-20 | 73 | .5 | .85 | 10 | 84 | .13 | .30 | 4L | 87 | 4.9 | 6.90 | 97 | 96 | 57. | 57.00 |
| † C-24 | 73 | .78 | 1.05 | 11 | 84 | .09 | .30 | † FT-4L | | 4.5 | 9.20 | 0200L | 88 | .59 | 2.70 |
| † C-36 | 73 | 1.63 | 1.65 | 15 | 84 | .10 | .33 | T-4L | 86 | 4.5 | 7.60 | 0200R | 88 | .59 | 2.70 |
| † C-422 | 73 | 1.44 | 1.65 | 18 | 84 | .18 | .34 | 4R | 87 | 4.9 | 6.90 | 0200S | 88 | .57 | 2.70 |
| WHEEL PULLER | | | | 20 | 84 | .22 | .35 | † FT-4R | | 4.5 | 9.20 | 200L | 88 | 1.1 | 2.85 |
| † 5 | .. | 1.60 | \$ 12.25 | 30 | 84 | .26 | .40 | T-4R | 86 | 4.5 | 7.60 | 200R | 88 | 1.1 | 2.85 |
| CHAIN PIPE TONGS | | | | 40 | 84 | .44 | .47 | 4S | 87 | 4.7 | 6.90 | 200S | 88 | 1.6 | 2.85 |
| 0 | 70 | 2. | \$ 5.00 | 60 | 84 | .63 | .56 | † FT-4S | | 4.38 | 9.20 | 201L | 88 | 2. | 3.25 |
| 1 | 79 | 5.5 | 7.00 | 65 | 84 | .75 | .61 | T-4S | 86 | 4.38 | 7.60 | 201R | 88 | 2. | 3.25 |
| 2 | 70 | 10. | 10.00 | TOOL POST RINGS | | | | 5 | 90 | 60. | \$ 90.00 | 201S | 88 | 2. | 3.25 |
| 3 | 70 | 17. | 14.00 | 5 | 84 | .25 | \$.33 | 5L | 87 | 7.8 | 9.75 | 202L | 88 | 3.2 | 4.00 |
| 3 1/2 | 70 | 20. | 18.00 | 10 | 84 | .5 | .47 | † FT-5L | | 7.55 | 12.90 | 202R | 88 | 3.2 | 4.00 |
| 4 | 79 | 34. | 22.00 | 11 | 84 | .5 | .52 | T-5L | 86 | 7.55 | 10.80 | 202S | 88 | 3.2 | 4.00 |
| 5 | 79 | 54. | 36.00 | 14 | 84 | .75 | .75 | 5R | 87 | 7.8 | 9.75 | 204L | 88 | 3.2 | 6.90 |
| 10 | 80 | 2. | 5.00 | 18 | 84 | 1.3 | .94 | † FT-5R | | 7.55 | 12.90 | 204R | 88 | 3.2 | 6.90 |
| 11 | 80 | 5.75 | 7.00 | 20 | 84 | .04 | .82 | T-5R | 86 | 7.55 | 10.80 | 204S | 88 | 3.2 | 6.90 |
| 12 | 80 | 10. | 10.00 | 30 | 84 | 1.3 | 1.00 | 5S | 87 | 7.2 | 9.75 | TOOL HOLDER SETS | | | |
| 13 | 80 | 17. | 14.00 | 40 | 84 | 1.8 | 1.15 | † FT-5S | | 7.44 | 12.90 | 00 to 4 | 97 | ..... |  |
| 13 1/2 | 80 | 24. | 18.00 | 60 | 84 | 2.2 | 1.50 | T-5S | 86 | 7.44 | 10.80 | LATHE DOGS | | | |
| 14 | 80 | 31. | 22.00 | TOOL POST RINGS | | | | 6L | 87 | 12. | 13.50 | 1 | 100 | .32 | \$ 1.00 |
| 15 | 80 | 52. | 36.00 | 5 | 84 | .25 | \$.33 | 6R | 87 | 12. | 13.50 | 2 | 100 | .50 | 1.10 |
| 16 | 80 | 137. | 80.00 | 10 | 84 | .5 | .47 | 6S | 87 | 12. | 13.50 | 3 | 100 | 1. | 1.20 |
| | | | | 11 | 84 | .5 | .52 | 11K | 94 | 1.9 | 9.00 | 4 | 100 | 1.5 | 1.40 |
| | | | | 14 | 84 | .75 | .75 | 12K | 94 | 2.25 | 10.50 | 5 | 100 | 1.9 | 1.70 |
| | | | | 18 | 84 | 1.3 | .94 | 15 | 90 | .63 | 4.15 | 6 | 100 | 2.6 | 2.00 |
| | | | | 20 | 84 | .04 | .82 | 16 | 90 | 1.2 | 5.25 | | | | |
| | | | | 30 | 84 | 1.3 | 1.00 | 17 | 90 | 2.6 | 6.75 | | | | |
| | | | | 40 | 84 | 1.8 | 1.15 | N-020R | 93 | .42 | * 2.85 | | | | |
| | | | | 60 | 84 | 2.2 | 1.50 | N-20R | 93 | .74 | * 3.00 | | | | |

†Discontinued

*Complete with Cut-Off Blade; with Side Blade, extra.

Complete with Sleeve Bar; with Plain Bar, less.

LIST PRICES AND WEIGHTS OF WILLIAMS' TOOLS

| No. | Page | Weight Each, Lbs. | List Price | No. | Page | Weight Each, Lbs. | List Price | No. | Page | Weight Each, Lbs. | List Price | No. | Page | Weight Each, Lbs. | List Price |
|-----------------------------|------|-------------------|------------|------------------------|------|-------------------|------------|--------------------|------|-------------------|------------|-------------------------------|--------------|-------------------|------------|
| LATHIE DOGS | | | | CLAMPS | | | | HOIST HOOKS | | | | ROD ENDS | | | |
| 7 | 100 | 3.3 | \$ 2.40 | 106 | 107 | 5.5 | \$ 5.50 | 2 | 118 | .59 | \$.32 | OB to 4E | 123 | | |
| 8 | 100 | 4.1 | 2.80 | 108 | 107 | 7 | 6.50 | 3 | 118 | .78 | .37 | 5A to 19A | 123 | | |
| 9 | 100 | 5.4 | 3.60 | 110 | 107 | 7.5 | 7.50 | 4 | 118 | 1. | .44 | THUMB NUTS AND SCREWS | | | |
| 10 | 100 | 7. | 4.60 | 112 | 107 | 9.5 | 8.50 | 5 | 118 | 1.0 | .58 | Thumb Nut Blanks "A" | | | |
| 11 | 100 | 10. | 6.00 | 115 | 107 | 13.5 | 11.00 | 6 | 118 | 2.1 | .85 | Page 116 | | | |
| 12 | 100 | 12. | 9.00 | 118 | 107 | 17. | 14.00 | 7 | 118 | 3. | 1.25 | For Bolt; | Weight, Lbs. | | |
| 13 | 100 | 20. | 16.00 | | | | | 8 | 118 | 4.4 | 1.80 | Size | Per 100 | | |
| 21 | 102 | .10 | 1.00 | 201 | 110 | .25 | 1.00 | 9 | 118 | 6.2 | 2.45 | 1/8 | .62 | | |
| 22 | 102 | .34 | 1.10 | 202 | 110 | .33 | 1.30 | | | | | 3/16 | 1.3 | | |
| 23 | 102 | .66 | 1.20 | 203 | 110 | .56 | 1.70 | | | | | 1/4 | 2.3 | | |
| 24 | 102 | 1.00 | 1.40 | 204 | 110 | .9 | 2.50 | | | | | 5/16 | 4. | | |
| 25 | 102 | 1.5 | 1.70 | | | | | 10 | 118 | 8. | 3.20 | 3/8 | 6.2 | | |
| 26 | 102 | 2. | 2.00 | 201 | 110 | .25 | 1.50 | 11 | 118 | 10. | 4.10 | 7/16 | 9.1 | | |
| 27 | 102 | 2.7 | 2.40 | 202 | 110 | .33 | 1.80 | 12 | 118 | 13.3 | 5.60 | 1/2 | 12.7 | | |
| 28 | 102 | 3.5 | 2.80 | 203 | 110 | .50 | 2.30 | 13 | 118 | 17.8 | 7.80 | 9/16 | 10.2 | | |
| 29 | 102 | 4.8 | 3.60 | 204 | 110 | .9 | 3.20 | 14 | 118 | 26.7 | 12.00 | 5/8 | 22.5 | | |
| 30 | 102 | 6. | 4.60 | | | | | 15 | 118 | 44. | 23.00 | 3/4 | 37. | | |
| 31 | 102 | 9. | 6.00 | 301 | 111 | .6 | 3.00 | 16A | 118 | 76. | 70.00 | Thumb Nut Blanks "B" | | | |
| 32 | 102 | 11. | 9.00 | 302 | 111 | 1.4 | 4.00 | | | | | Page 116 | | | |
| 33 | 102 | 19.5 | 16.00 | 303 | 111 | 1.9 | 5.00 | 22 | 119 | .53 | .36 | 1/8 | .94 | | |
| 61 | 105 | .53 | 3.00 | 304 | 111 | 3.1 | 6.00 | 23 | 119 | .76 | .43 | 3/16 | 1.6 | | |
| 62 | 105 | .98 | 4.00 | | | | | 24 | 119 | 1.1 | .53 | 1/4 | 2.8 | | |
| 63 | 105 | 1.8 | 5.00 | 402 | 109 | 1.13 | 1.50 | 25 | 119 | 1.5 | .73 | 5/16 | 4.2 | | |
| 64 | 105 | 3. | 7.00 | 403 | 109 | 1.5 | 1.80 | 26 | 119 | 2.2 | 1.05 | 3/8 | 6.8 | | |
| 112 | 101 | 15. | 16.00 | 404 | 109 | 2.25 | 2.20 | 27 | 119 | 3. | 1.50 | 7/16 | 9.5 | | |
| 113 | 101 | 21.5 | 24.00 | 406 | 109 | 3.75 | 3.00 | 28 | 119 | 4.4 | 2.10 | 1/2 | 13.7 | | |
| 114 | 101 | 30.7 | 34.00 | 408 | 109 | 5.5 | 4.00 | 29 | 119 | 6. | 2.85 | 9/16 | 15.3 | | |
| 132 | 103 | 13. | 16.00 | 410 | 109 | 8.25 | 5.00 | | | | | 5/8 | 21.8 | | |
| 133 | 103 | 20.5 | 24.00 | 412 | 109 | 12.5 | 6.50 | 30 | 119 | 8. | 3.70 | 3/4 | 38. | | |
| 134 | 103 | 28. | 34.00 | | | | | 31 | 119 | 10.3 | 4.70 | Thumb Screw Blanks "C" | | | |
| MILLING MACHINE DOGS | | | | 402-S | 109 | 1.13 | 1.80 | 32 | 119 | 14. | 6.40 | Pages 116 and 117 | | | |
| 42 | 104 | .75 | \$ 1.10 | 403-S | 109 | 1.5 | 2.25 | 33 | 119 | 20. | 9.40 | 1/8 x 1 | .94 | | |
| 43 | 104 | .93 | 1.20 | 404-S | 109 | 2.25 | 2.90 | 34 | 119 | 31.5 | 18.50 | 1/8 x 2 | 1.3 | | |
| 44 | 104 | 1.2 | 1.40 | 406-S | 109 | 3.75 | 3.75 | 35 | 119 | 51.7 | 35.00 | 1/8 x 3 | 1.6 | | |
| 45 | 104 | 1.3 | 1.70 | 408-S | 109 | 5.5 | 4.75 | 36 | 119 | 88. | 86.00 | 1/8 x 4 | 2.1 | | |
| 46 | 104 | 1.6 | 2.00 | 410-S | 109 | 8.25 | 6.00 | 36A | 119 | 88. | 100.00 | 3/16 x 1 | 2.1 | | |
| 47 | 104 | 1.8 | 2.40 | 412-S | 109 | 12.5 | 7.50 | | | | | 3/16 x 2 | 3.4 | | |
| 48 | 104 | 2.1 | 2.80 | | | | | | | | | 3/16 x 3 | 4.3 | | |
| CLAMPS | | | | † 502 | --- | .75 | 1.50 | *EYE BOLTS | | | | 3/16 x 4 | 5.6 | | |
| 0 | 106 | .25 | \$ 1.00 | † 503 | --- | 1.25 | 1.80 | 3 | 120 | .17 | \$.16 | 1/4 x 1 | 4. | | |
| 1 | 106 | .75 | 1.50 | † 504 | --- | 2. | 2.20 | 4 | 120 | .23 | .18 | 1/4 x 2 | 5.3 | | |
| 1 1/2 | 106 | 1.6 | 2.50 | † 506 | --- | 3. | 3.00 | 5 | 120 | .33 | .21 | 1/4 x 3 | 7.8 | | |
| 2 | 106 | 3.1 | 3.50 | † 508 | --- | 4.5 | 4.00 | 6 | 120 | .5 | .25 | 1/4 x 4 | 8.7 | | |
| 3 | 106 | 6.5 | 5.00 | † 510 | --- | 6. | 5.00 | 7 | 120 | .68 | .32 | 5/16 x 1 | 0.2 | | |
| 4 | 106 | 9.7 | 6.50 | † 512 | --- | 7.5 | 6.50 | 8 | 120 | 1.1 | .42 | 5/16 x 2 | 7.8 | | |
| 5 | 106 | 12.3 | 8.00 | | | | | 9 | 120 | 1.5 | .55 | 5/16 x 3 | 10.6 | | |
| 6 | 106 | 18.5 | 10.00 | BALANCE HANDLES | | | | | | | | 5/16 x 4 | 13.7 | | |
| 8 | 106 | 24. | 14.00 | 434 | 114 | 1.3 | \$ 4.90 | 10 | 120 | 2.1 | .74 | 3/8 x 1 | 10. | | |
| 10 | 106 | 28. | 19.00 | 439 | 114 | 2.8 | 5.90 | 11 | 120 | 3. | 1.04 | 3/8 x 2 | 12.6 | | |
| 12 | 106 | 40. | 25.00 | 512 | 114 | .25 | 2.30 | 12 | 120 | 4.2 | 1.45 | 3/8 x 3 | 16. | | |
| 30 | 112 | .37 | .40 | 516 | 114 | .60 | 2.45 | 14 | 120 | 6.8 | 2.50 | 3/8 x 4 | 19.3 | | |
| 35 | 112 | .62 | .50 | 520 | 114 | .75 | 2.65 | 15 | 120 | 10.9 | 3.75 | 7/16 x 1 | 13.7 | | |
| 40 | 112 | .87 | .70 | 522 | 114 | 1.1 | 2.90 | 16 | 120 | 15.1 | 5.30 | 7/16 x 2 | 18.5 | | |
| 44 | 113 | .83 | .60 | 525 | 114 | 1.3 | 3.30 | 17 | 120 | 31. | 8.80 | 7/16 x 3 | 21.2 | | |
| 46 | 113 | 1.6 | 1.00 | 529 | 114 | 1.6 | 3.85 | | | | | 7/16 x 4 | 26.2 | | |
| 48 | 113 | 3.3 | 1.70 | CRANK HANDLES | | | | 21 | 121 | .05 | .14 | 1/2 x 1 | 16.2 | | |
| 54 | 112 | 1. | .60 | 00 | 115 | .38 | \$ 1.85 | 22 | 121 | .1 | .15 | 1/2 x 2 | 21.2 | | |
| 56 | 112 | 1.8 | 1.00 | 0 | 115 | .43 | 2.00 | 23 | 121 | .2 | .16 | 1/2 x 3 | 27. | | |
| 58 | 112 | 3.8 | 1.70 | 1 | 115 | .78 | 2.30 | 24 | 121 | .26 | .18 | 1/2 x 4 | 32.5 | | |
| 59 | 112 | 6.6 | 2.80 | 2 | 115 | .75 | 2.30 | 25 | 121 | .4 | .21 | 9/16 x 1 | 21. | | |
| 54A | 112 | 1.1 | 1.10 | 4 | 115 | 1. | 2.65 | 26 | 121 | .54 | .25 | 9/16 x 2 | 27.5 | | |
| 56A | 112 | 2. | 1.70 | 6 | 115 | 1.1 | 3.15 | 27 | 121 | .72 | .32 | 9/16 x 3 | 35.3 | | |
| 58A | 112 | 3.9 | 2.60 | 8 | 115 | 1.2 | 3.85 | | | | | 9/16 x 4 | 42.8 | | |
| 59A | 112 | 7.1 | 4.00 | 10 | 115 | 1.6 | 4.75 | 28 | 121 | 1.1 | .42 | 5/8 x 1 | 26.8 | | |
| 64 | 113 | 1. | .60 | 12 | 115 | 2.4 | 5.80 | 29 | 121 | 1.8 | .55 | 5/8 x 2 | 34.3 | | |
| 66 | 113 | 2. | 1.00 | 14 | 115 | 2.5 | 6.50 | 30 | 121 | 2.4 | .74 | 5/8 x 3 | 46.6 | | |
| 68 | 113 | 4. | 1.70 | 16 | 115 | 3.2 | 8.15 | 31 | 121 | 3.5 | 1.04 | 5/8 x 4 | 54.6 | | |
| 74 | 112 | 1. | .60 | MACHINE HANDLES | | | | 32 | 121 | 4.6 | 1.45 | 3/4 x 1 | 38.7 | | |
| 76 | 112 | 2. | 1.00 | 00 | 113 | .06 | \$.21 | 34 | 121 | 7.5 | 2.50 | 3/4 x 2 | 53. | | |
| 78 | 112 | 4.2 | 1.70 | 0 | 113 | .09 | .21 | 35 | 121 | 12.5 | 3.75 | 3/4 x 3 | 68. | | |
| 103 | 107 | 2.63 | 4.00 | 1 | 113 | .13 | .23 | 36 | 121 | 18. | 5.30 | 3/4 x 4 | 78.7 | | |
| 104 | 107 | 4.25 | 4.50 | 2 | 113 | .22 | .29 | | | | | | | | |
| | | | | 3 | 113 | .31 | .36 | | | | | | | | |
| | | | | 4 | 113 | .37 | .46 | | | | | | | | |
| | | | | 5 | 113 | .62 | .57 | | | | | | | | |
| | | | | 6 | 113 | 1.3 | .69 | | | | | | | | |
| | | | | 7 | 113 | 1.7 | .84 | | | | | | | | |
| | | | | 11 | 113 | .22 | .29 | | | | | | | | |
| | | | | 13 | 113 | .43 | .46 | | | | | | | | |
| | | | | 15 | 113 | .75 | .57 | | | | | | | | |
| | | | | 16 | 113 | 1.1 | .69 | | | | | | | | |

†Discontinued

*Threaded Eye Bolt prices; Blanks less.

3-43

STANDARD SPECIFICATIONS
FOR
WILLIAMS' + "SUPERIOR" DROP-FORGED WRENCHES
(Carbon-Steel)

Williams' "Superior" Wrenches, drop-forged from improved quality carbon steel and specially processed to Williams' exacting specifications, are approximately *twice as strong* as old-fashioned carbon steel wrenches. 50 patterns, over 1000 sizes.

Unfinished Wrench

*"Maximum Utility with
Minimum Finish"*

Openings milled or broached, shanks smooth, sizes stamped on heads, hardened and shot-blasted.



Finished Wrench

*"Maximum Finish at
Medium Price"*

Openings milled or broached, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads polished bright.



All openings are slightly larger than stated in tables to allow for clearance and variations.

Special Milling

On small quantities where special openings are specified, an extra charge will be made to cover the cost of "setting up" machines. No extra charge will be made for this special work when quantities are sufficient to cover the cost.

A sample Nut or Screw, as gauge, should accompany orders.

Special Wrenches

made to order. Prices will be quoted upon receipt of models, or drawings and specifications stating kind of finish (see above description) and quantity required.

When Ordering

please use numbers and state whether requirements are for American Standard HEAVY (U.S.S.), American Standard LIGHT (S.A.E.), American Standard REGULAR, Whitworth Standard or m/m openings and condition of finish desired.

Finished Wrenches will be supplied, unless otherwise specified.

† REGISTERED TRADE MARK

WILLIAMS' + "SUPERIOR" ENGINEERS' WRENCHES
(Carbon Steel)
15° Angle, Single Head
For Standard Nuts and Cap Screws


Unfinished are milled, size stamped on head, hardened and shot-blasted.

Finished are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

Wrenches of this style but with handle tapered will be furnished on orders for the larger sizes, beginning with No. 11.

Handles can be bent above heads at angles of 45° to 90° from opening, at an additional charge; see cut at right.



(Continued on opposite page)

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | Ex-treme Length Approx. | LIST PRICE | | No. |
|-------|-----------------|--|--|--|-----------------------------------|-------------------------|-------------|-----------|-------|
| | | | | | | | Unfin-ished | Fin-ished | |
| S 000 | 3/16 | ..... | ..... | ..... | *Nos. 2 & 3 | 2 1/2 | \$.22 | \$.28 | S 000 |
| S 00 | 1/4 | ..... | ..... | ..... | *No. 4 | 2 7/8 | .22 | .28 | S 00 |
| 00 | 5/16 | 1/8 | 1/8 | ..... | *Nos. 5 & 6 | 3 1/2 | .22 | .28 | 00 |
| 700 | 3/8 | ..... | 3/16 | ..... | *No. 10 | 4 | .24 | .30 | 700 |
| 0 | 13/32 | 3/16 | ..... | ..... | ..... | 4 | .24 | .30 | 0 |
| 701 | 7/16 | ..... | 1/4 | 1/4 | 1/4 & *No. 12 | 4 5/8 | .20 | .36 | 701 |
| 1 | 1/2 | 1/4 | 5/16 | 5/16 | ..... | 4 5/8 | .20 | .36 | 1 |
| 702 | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 5 1/2 | .35 | .44 | 702 |
| 2 | 19/32 | 5/16 | ..... | ..... | ..... | 5 1/2 | .35 | .44 | 2 |
| 703 | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 6 3/8 | .42 | .52 | 703 |
| 3 | 11/16 | 3/8 | ..... | ..... | ..... | 6 3/8 | .42 | .52 | 3 |
| 704 | 3/4 | ..... | 1/2 | 1/2 | 7/16 | 7 1/4 | .52 | .64 | 704 |
| 4 | 25/32 | 7/16 | ..... | ..... | ..... | 7 1/4 | .52 | .64 | 4 |
| 705 | 13/16 | ..... | 9/16 | ..... | 1/2 | 8 1/8 | .62 | .76 | 705 |
| 5 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 8 1/8 | .62 | .76 | 5 |
| 6A | 15/16 | ..... | ..... | 5/8 | ..... | 9 1/4 | .76 | .92 | 6A |
| 6 | 31/32 | 9/16 | ..... | ..... | ..... | 9 1/4 | .76 | .92 | 6 |
| 706 | 1 | ..... | 3/4 | ..... | 5/8 | 9 1/4 | .76 | .92 | 706 |

*Amer. Std. Machine-Screw and Stove-Bolt Nuts.

Weights, pages F and H.

★ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 34)

10-42

WILLIAMS' + "SUPERIOR" ENGINEERS' WRENCHES
(Carbon Steel)

15° Angle, Single Head
For Standard Nuts and Cap Screws
(Continued)

Supplied in Whitworth Standard and Metric Measure; see page 124.

The following Finished Wrenches have hole of diameter given below in end of handle:

| | | | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-------|-------|-------|-------|--------|
| No. | 17 | 17A | 18 | 18A | 19 | 19A | 19B | 19C | 20 | 20A | 20B | 21A | 21B | 21C | 22A | 22B |
| Hole | 5/8 | 5/8 | 3/4 | 3/4 | 7/8 | 7/8 | 7/8 | 7/8 | 1 | 1 | 1 | 1-1/8 | 1-1/8 | 1-1/8 | 1-1/4 | 1-1/4" |

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | Ex-treme Length, Approx. | LIST PRICE | | No. |
|------|-----------------|--|--|--|-----------------------------------|--------------------------|-------------|-----------|------|
| | | | | | | | Unfin-ished | Fin-ished | |
| 7 | 1 1/16 | 5/8 | ..... | 3/4 | ..... | 10 1/2 | \$.96 | \$ 1.14 | 7 |
| 707 | 1 1/8 | ..... | 7/8 | ..... | 3/4 | 10 1/2 | .96 | 1.14 | 707 |
| 8 | 1 1/4 | 3/4 | (†1) | 7/8 | ..... | 12 | 1.28 | 1.50 | 8 |
| 8A | 1 5/16 | ..... | 1 | ..... | 7/8 | 12 | 1.28 | 1.50 | 8A |
| 708A | 1 3/8 | ..... | (†1 1/8) | ..... | ..... | 12 | 1.28 | 1.50 | 708A |
| 9 | 1 7/16 | 7/8 | ..... | 1 | ..... | 13 1/2 | 2.00 | 2.30 | 9 |
| 709 | 1 1/2 | ..... | 1 1/8 (†1 1/4) | ..... | 1 | 13 1/2 | 2.00 | 2.30 | 709 |
| 10 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 15 | 2.80 | 3.20 | 10 |
| 10A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 15 | 2.80 | 3.20 | 10A |
| 11 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 16 1/2 | 3.80 | 4.20 | 11 |
| 11A | 1 7/8 | ..... | ..... | ..... | 1 1/4 | 16 1/2 | 3.80 | 4.20 | 11A |
| 12 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 18 1/4 | 5.20 | 5.70 | 12 |
| 12A | 2 1/16 | ..... | ..... | ..... | 1 3/8 | 18 1/4 | 5.20 | 5.70 | 12A |
| 13 | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 20 | 6.70 | 7.30 | 13 |
| 13A | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 20 | 6.70 | 7.30 | 13A |
| 14 | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 22 | 8.25 | 9.20 | 14 |
| 14A | 2 7/16 | ..... | ..... | ..... | 1 5/8 | 22 | 8.25 | 9.20 | 14A |
| 15 | 2 9/16 | 1 5/8 | ..... | ..... | ..... | 24 | 10.00 | 11.20 | 15 |
| 15A | 2 5/8 | ..... | ..... | ..... | 1 3/4 | 24 | 10.00 | 11.20 | 15A |
| 16 | 2 3/4 | 1 3/4 | ..... | ..... | ..... | 27 | 11.90 | 13.40 | 16 |
| 16B | 2 13/16 | ..... | ..... | ..... | 1 7/8 | 27 | 11.90 | 13.40 | 16B |
| 16A | 2 15/16 | 1 7/8 | ..... | ..... | ..... | 27 | 11.90 | 13.40 | 16A |
| 17A | 3 | ..... | ..... | ..... | 2 | 30 | 18.70 | 20.50 | 17A |
| 17 | 3 1/8 | 2 | ..... | ..... | ..... | 30 | 18.70 | 20.50 | 17 |
| 18A | 3 3/8 | ..... | ..... | ..... | 2 1/4 | 34 | 27.50 | 29.50 | 18A |
| 18 | 3 1/2 | 2 1/4 | ..... | ..... | ..... | 34 | 27.50 | 29.50 | 18 |
| 19B | 3 3/4 | ..... | ..... | ..... | 2 1/2 | 38 | 39.75 | 42.00 | 19B |
| 19 | 3 7/8 | 2 1/2 | ..... | ..... | ..... | 38 | 39.75 | 42.00 | 19 |
| 19C | 4 1/8 | ..... | ..... | ..... | 2 3/4 | 38 | 39.75 | 42.00 | 19C |
| 19A | 4 1/4 | 2 3/4 | ..... | ..... | ..... | 38 | 39.75 | 42.00 | 19A |
| 20B | 4 1/2 | ..... | ..... | ..... | 3 | 42 | 58.50 | 62.00 | 20B |
| 20 | 4 5/8 | 3 | ..... | ..... | ..... | 42 | 58.50 | 62.00 | 20 |
| 20A | 5 | 3 1/4 | ..... | ..... | ..... | 42 | 58.50 | 62.00 | 20A |
| 21A | 5 3/8 | 3 1/2 | ..... | ..... | ..... | 47 | 107.00 | 114.00 | 21A |
| 21B | 5 3/4 | 3 3/4 | ..... | ..... | ..... | 47 | 107.00 | 114.00 | 21B |
| 21C | 6 1/8 | 4 | ..... | ..... | ..... | 47 | 107.00 | 114.00 | 21C |
| 22A | 6 7/8 | 4 1/2 | ..... | ..... | ..... | 52 | 192.00 | 204.00 | 22A |
| 22B | 7 5/8 | 5 | ..... | ..... | ..... | 52 | 192.00 | 204.00 | 22B |

†Old style cap screw—now obsolete.

★ REGISTERED TRADE MARK

Weights, pages F and H.

(Alloy Steel Wrenches, page 34)

WILLIAMS' + "SUPERIOR" ENGINEERS' WRENCHES
(Carbon Steel)

15° Angle, Double Head



Unfinished are milled, size stamped on head, hardened and shot-blasted.

Finished are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

Supplied in Whitworth Standard and Metric Measure; see pages 124 and 125.

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | Ex-treme Length, Approx. | LIST PRICE | | No. |
|------|------------------|--|--|--|-------------------------------------|--------------------------|-------------|-----------|------|
| | | | | | | | Unfin-ished | Fin-ished | |
| 721 | 5/16 & 3/8 | 1/8 | 1/8 & 3/16 | ..... | ..... | 4 1/8 | \$.28 | \$.34 | 721 |
| 21 | 5/16 & 13/32 | 1/8 & 3/16 | 1/8 | ..... | ..... | 4 1/8 | .28 | .34 | 21 |
| 722 | 5/16 & 7/16 | 1/8 | 1/8 & 1/4 | ..... | 1/4 | 4 1/2 | .34 | .42 | 722 |
| 22 | 5/16 & 1/2 | 1/8 & 1/4 | 1/8 & 5/16 | ..... | 5/16 | 4 1/2 | .34 | .42 | 22 |
| 723 | 3/8 & 7/16 | ..... | 3/16 & 1/4 | ..... | 1/4 | 4 1/2 | .34 | .42 | 723 |
| 723A | 3/8 & 1/2 | 1/4 | 3/16 & 5/16 | ..... | 5/16 | 4 7/8 | .34 | .42 | 723A |
| 23 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | ..... | 5/16 | 4 7/8 | .34 | .42 | 23 |
| 24 | 13/32 & 19/32 | 3/16 & 5/16 | ..... | ..... | ..... | 5 1/4 | .40 | .50 | 24 |
| 725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 1/4 | .40 | .50 | 725 |
| 725A | 7/16 & 9/16 | ..... | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 & 5/16 | 5 1/4 | .40 | .50 | 725A |
| 25A | 7/16 & 5/8 | ..... | 1/4 & 7/16 | 1/4 & 7/16 | 1/4 & 3/8 | 5 3/4 | .40 | .50 | 25A |
| 725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 5 3/4 | .40 | .50 | 725B |
| 25 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | ..... | 5 3/4 | .40 | .50 | 25 |
| 726 | 1/2 & 5/8 | 1/4 | 5/16 & 7/16 | 5/16 & 7/16 | 3/8 | 6 1/4 | .50 | .62 | 726 |
| 26 | 1/2 & 11/16 | 1/4 & 3/8 | 5/16 | 5/16 | ..... | 6 1/4 | .50 | .62 | 26 |
| 727 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 1/4 | .50 | .62 | 727 |
| 27 | 19/32 & 11/16 | 5/16 & 3/8 | ..... | ..... | ..... | 6 3/4 | .50 | .62 | 27 |
| 728 | 9/16 & 3/4 | ..... | 3/8 & 1/2 | 3/8 & 1/2 | 5/16 & 7/16 | 7 1/4 | .60 | .74 | 728 |
| 28 | 19/32 & 25/32 | 5/16 & 7/16 | ..... | ..... | ..... | 7 1/4 | .60 | .74 | 28 |
| 729 | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 7 1/4 | .60 | .74 | 729 |
| 29 | 11/16 & 25/32 | 3/8 & 7/16 | ..... | ..... | ..... | 7 7/8 | .60 | .74 | 29 |
| 730 | 5/8 & 13/16 | ..... | 7/16 & 9/16 | 7/16 | 3/8 & 1/2 | 8 1/2 | .74 | .90 | 730 |
| 730A | 5/8 & 7/8 | 1/2 | 7/16 & 5/8 | 7/16 & 9/16 | 3/8 & 9/16 | 8 1/2 | .74 | .90 | 730A |
| 30 | 11/16 & 7/8 | 3/8 & 1/2 | 5/8 | 9/16 | 9/16 | 8 1/2 | .74 | .90 | 30 |
| 731 | 3/4 & 13/16 | ..... | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 9 1/8 | .74 | .90 | 731 |
| 731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 9 1/8 | .74 | .90 | 731A |
| 31 | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | 9 1/8 | .74 | .90 | 31 |
| 731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | 9 1/8 | .74 | .90 | 731B |
| 32 | 25/32 & 31/32 | 7/16 & 9/16 | ..... | ..... | ..... | 10 | .90 | 1.10 | 32 |
| 732 | 13/16 & 1 | ..... | 9/16 & 3/4 | ..... | 1/2 & 5/8 | 10 | .90 | 1.10 | 732 |
| 33A | 7/8 & 15/16 | 1/2 | 5/8 | 9/16 & 5/8 | 9/16 | 10 | .90 | 1.10 | 33A |
| 33 | 7/8 & 31/32 | 1/2 & 9/16 | 5/8 | 9/16 | 9/16 | 10 | .90 | 1.10 | 33 |
| 733 | 7/8 & 1 | 1/2 | 5/8 & 3/4 | 9/16 | 9/16 & 5/8 | 10 | .90 | 1.10 | 733 |
| 34 | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 11 | 1.12 | 1.36 | 34 |
| 734 | 7/8 & 1 1/8 | 1/2 | 5/8 & 7/8 | 9/16 | 9/16 & 3/4 | 11 | 1.12 | 1.36 | 734 |
| 34A | 15/16 & 1 1/16 | 5/8 | ..... | 5/8 & 3/4 | ..... | 11 | 1.12 | 1.36 | 34A |

Sets, pages 28 and 29.

Weights, pages F and H.

★ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 32)

10-42

WILLIAMS' + "SUPERIOR" ENGINEERS' WRENCHES
(Carbon Steel)

15° Angle, Double Head—(Continued)

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | Ex-treme Length, Approx. | LIST PRICE | | No. |
|------|------------------|--|--|--|-------------------------------------|--------------------------|-------------|-----------|------|
| | | | | | | | Unfin-ished | Fin-ished | |
| 35 | 31/32 & 1 1/16 | 9/16 & 5/8 | | 3/4 | | 11 | \$ 1.12 | \$ 1.36 | 35 |
| 735 | 1 & 1 1/8 | | 3/4 & 7/8 | | 5/8 & 3/4 | 11 | 1.12 | 1.36 | 735 |
| 36 | 31/32 & 1 1/4 | 9/16 & 3/4 | | 7/8 | | 12 3/8 | 1.62 | 1.92 | 36 |
| 736A | 1 & 1 5/16 | | 3/4 & 1 | | 5/8 & 7/8 | 12 3/8 | 1.62 | 1.92 | 736A |
| 37 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | | 3/4 & 7/8 | | 12 3/8 | 1.62 | 1.92 | 37 |
| 37A | 1 1/8 & 1 5/16 | | 7/8 & 1 | | 3/4 & 7/8 | 12 3/8 | 1.62 | 1.92 | 37A |
| 38 | 1 1/16 & 1 7/16 | 5/8 & 7/8 | | 3/4 & 1 | | 14 | 2.40 | 2.80 | 38 |
| 38A | 1 1/8 & 1 1/2 | | 7/8 & 1 1/8 | | 3/4 & 1 | 14 | 2.40 | 2.80 | 38A |
| 39 | 1 1/4 & 1 7/16 | 3/4 & 7/8 | | 7/8 & 1 | | 14 | 2.40 | 2.80 | 39 |
| 39A | 1 5/16 & 1 1/2 | | 1 & 1 1/8 | | 7/8 & 1 | 14 | 2.40 | 2.80 | 39A |
| 40 | 1 1/4 & 1 5/8 | 3/4 & 1 | | 7/8 & 1 1/8 | | 15 3/4 | 3.30 | 3.80 | 40 |
| 40A | 1 5/16 & 1 11/16 | | 1 & 1 1/4 | | 7/8 & 1 1/8 | 15 3/4 | 3.30 | 3.80 | 40A |
| 41 | 1 7/16 & 1 5/8 | 7/8 & 1 | | 1 & 1 1/8 | | 15 3/4 | 3.30 | 3.80 | 41 |
| 42 | 1 7/16 & 1 13/16 | 7/8 & 1 1/8 | | 1 & 1 1/4 | | 17 | 4.60 | 5.30 | 42 |
| 42A | 1 1/2 & 1 11/16 | | 1 1/8 & 1 1/4 | | 1 & 1 1/8 | 17 | 4.60 | 5.30 | 42A |
| 42B | 1 1/2 & 1 7/8 | | 1 1/8 | | 1 & 1 1/4 | 17 | 4.60 | 5.30 | 42B |
| 43 | 1 5/8 & 1 13/16 | 1 & 1 1/8 | | 1 1/8 & 1 1/4 | | 17 | 4.60 | 5.30 | 43 |
| 44 | 1 5/8 & 2 | 1 & 1 1/4 | | 1 1/8 & 1 3/8 | | 19 | 6.25 | 7.20 | 44 |
| 44A | 1 11/16 & 1 7/8 | | 1 1/4 | | 1 1/8 & 1 1/4 | 19 | 6.25 | 7.20 | 44A |
| 45 | 1 13/16 & 2 | 1 1/8 & 1 1/4 | | 1 1/4 & 1 3/8 | | 19 | 6.25 | 7.20 | 45 |
| 46A | 1 11/16 & 2 1/4 | | 1 1/4 | | 1 1/8 & 1 1/2 | 21 | 9.30 | 10.50 | 46A |
| 46 | 1 13/16 & 2 3/16 | 1 1/8 & 1 3/8 | | 1 1/4 & 1 1/2 | | 21 | 9.30 | 10.50 | 46 |
| 47A | 1 7/8 & 2 1/4 | | | | 1 1/4 & 1 1/2 | 21 | 9.30 | 10.50 | 47A |
| 47 | 2 & 2 3/16 | 1 1/4 & 1 3/8 | | 1 3/8 & 1 1/2 | | 21 | 9.30 | 10.50 | 47 |
| 48 | 2 & 2 3/8 | 1 1/4 & 1 1/2 | | 1 3/8 | | 23 | 12.50 | 14.00 | 48 |
| 49 | 2 3/16 & 2 3/8 | 1 3/8 & 1 1/2 | | 1 1/2 | | 23 | 12.50 | 14.00 | 49 |
| 50A | 1 7/8 & 2 5/8 | | | | 1 1/4 & 1 3/4 | 25 | 16.25 | 18.00 | 50A |
| 50 | 2 3/16 & 2 9/16 | 1 3/8 & 1 5/8 | | 1 1/2 | | 25 | 16.25 | 18.00 | 50 |
| 50B | 2 1/4 & 2 5/8 | | | | 1 1/2 & 1 3/4 | 25 | 16.25 | 18.00 | 50B |
| 51 | 2 3/8 & 2 9/16 | 1 1/2 & 1 5/8 | | | | 25 | 18.00 | 19.80 | 51 |
| 52 | 2 3/8 & 2 3/4 | 1 1/2 & 1 3/4 | | | | 27 | 20.00 | 22.00 | 52 |
| 53 | 2 9/16 & 2 3/4 | 1 5/8 & 1 3/4 | | | | 27 | 22.00 | 24.00 | 53 |
| 54A | 2 1/4 & 3 | | | | 1 1/2 & 2 | 30 | 26.25 | 28.50 | 54A |
| 54 | 2 9/16 & 3 1/8 | 1 5/8 & 2 | | | | 30 | 26.25 | 28.50 | 54 |
| 54B | 2 5/8 & 3 | | | | 1 3/4 & 2 | 30 | 26.25 | 28.50 | 54B |
| 55 | 2 3/4 & 3 1/8 | 1 3/4 & 2 | | | | 32 | 28.75 | 31.00 | 55 |
| 56A | 2 5/8 & 3 3/8 | | | | 1 3/4 & 2 1/4 | 34 | 37.50 | 40.00 | 56A |
| 56 | 2 3/4 & 3 1/2 | 1 3/4 & 2 1/4 | | | | 34 | 37.50 | 40.00 | 56 |
| 57B | 3 & 3 3/8 | | | | 2 & 2 1/4 | 36 | 44.25 | 47.00 | 57B |
| 57 | 3 1/8 & 3 1/2 | 2 & 2 1/4 | | | | 36 | 44.25 | 47.00 | 57 |
| 57A | 3 1/8 & 3 7/8 | 2 & 2 1/2 | | | | 38 | 53.00 | 56.00 | 57A |
| 57C | 3 & 3 3/4 | | | | 2 & 2 1/2 | 38 | 53.00 | 56.00 | 57C |
| 58A | 3 3/8 & 3 3/4 | | | | 2 1/4 & 2 1/2 | 38 | 59.00 | 62.00 | 58A |
| 58 | 3 1/2 & 3 7/8 | 2 1/4 & 2 1/2 | | | | 38 | 59.00 | 62.00 | 58 |
| 59A | 3 3/8 & 4 1/8 | | | | 2 1/4 & 2 3/4 | 38 | 59.00 | 62.00 | 59A |
| 59 | 3 1/2 & 4 1/4 | 2 1/4 & 2 3/4 | | | | 38 | 59.00 | 62.00 | 59 |
| 60A | 3 3/4 & 4 1/8 | | | | 2 1/2 & 2 3/4 | 40 | 71.00 | 75.00 | 60A |
| 60 | 3 7/8 & 4 1/4 | 2 1/2 & 2 3/4 | | | | 40 | 71.00 | 75.00 | 60 |
| 61A | 3 3/4 & 4 1/2 | | | | 2 1/2 & 3 | 43 | 89.00 | 94.00 | 61A |
| 61 | 3 7/8 & 4 5/8 | 2 1/2 & 3 | | | | 43 | 89.00 | 94.00 | 61 |
| 62A | 4 1/8 & 4 1/2 | | | | 2 3/4 & 3 | 43 | 89.00 | 94.00 | 62A |
| 62 | 4 1/4 & 4 5/8 | 2 3/4 & 3 | | | | 43 | 89.00 | 94.00 | 62 |
| 63 | 4 1/4 & 5 3/8 | 2 3/4 & 3 1/2 | | | | 47 | 126.00 | 135.00 | 63 |
| 64 | 4 5/8 & 5 3/8 | 3 & 3 1/2 | | | | 47 | 146.00 | 155.00 | 64 |

Sets, pages 28 and 29.

Weights, pages F and H.

★ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 32)

WILLIAMS' + "SUPERIOR" CHECK NUT,
OR "THIN" WRENCHES
(Carbon Steel)

15° Angle, Single Head

For Check, Jam, or Lock Nuts, etc.



This class of Wrench is guaranteed amply strong for its intended purpose, but is not designed for severe service.

Supplied in Whitworth Standard and Metric Measure; see page 125.

These Wrenches are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

| No. | Nominal Opening | Amer. Std. HEAVY Jam Nut (U.S.S.); Size Bolt | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Jam Nut; Size Bolt | Ex-treme Length, Approx. | Thickness Head | LIST PRICE Each Finished | No. |
|------|-----------------|--|--|---------------------------------------|--------------------------|----------------|--------------------------|------|
| 601A | 7/16 | ..... | 1/4 | 1/4 | 4 | 5/32 | \$.36 | 601A |
| 601 | 1/2 | 1/4 | 5/16 | ..... | 4 | 5/32 | .36 | 601 |
| 602A | 9/16 | ..... | 3/8 | 5/16 | 4 1/2 | 11/64 | .44 | 602A |
| 602 | 19/32 | 5/16 | ..... | ..... | 4 1/2 | 11/64 | .44 | 602 |
| 603A | 5/8 | ..... | 7/16 | 3/8 | 5 1/8 | 3/16 | .52 | 603A |
| 603 | 11/16 | 3/8 | ..... | ..... | 5 1/8 | 3/16 | .52 | 603 |
| 604A | 3/4 | ..... | 1/2 | 7/16 | 5 7/8 | 7/32 | .64 | 604A |
| 604 | 25/32 | 7/16 | ..... | ..... | 5 7/8 | 7/32 | .64 | 604 |
| 605A | 13/16 | ..... | ..... | 1/2 | 6 5/8 | 1/4 | .76 | 605A |
| 605 | 7/8 | 1/2 | 9/16 | 9/16 | 6 5/8 | 1/4 | .76 | 605 |
| 606 | 31/32 | 9/16 | ..... | ..... | 7 1/2 | 9/32 | .90 | 606 |
| 606B | 1 | ..... | ..... | 5/8 | 7 1/2 | 9/32 | .90 | 606B |
| 607 | 1 1/16 | 5/8 | 3/4 | ..... | 8 1/2 | 5/16 | 1.08 | 607 |
| 607A | 1 1/8 | ..... | ..... | 3/4 | 8 1/2 | 5/16 | 1.08 | 607A |
| 608 | 1 1/4 | 3/4 | 7/8 | ..... | 10 | 3/8 | 1.36 | 608 |
| 608A | 1 5/16 | ..... | ..... | 7/8 | 10 | 3/8 | 1.36 | 608A |
| 609 | 1 7/16 | 7/8 | 1 | ..... | 11 5/8 | 7/16 | 1.84 | 609 |
| 609A | 1 1/2 | ..... | ..... | 1 | 11 5/8 | 7/16 | 1.84 | 609A |
| 610 | 1 5/8 | 1 | 1 1/8 | ..... | 13 1/4 | 1/2 | 2.60 | 610 |
| 610A | 1 11/16 | ..... | ..... | 1 1/8 | 13 1/4 | 1/2 | 2.60 | 610A |

Weights, page G.

† REGISTERED TRADE MARK

10-42

WILLIAMS' + "SUPERIOR" CHECK NUT,
 OR "THIN" WRENCHES
 (Carbon Steel)

15° Angle, Double Head

For Check, Jam, or Lock Nuts, etc.



For description, see opposite page. Whitworth and Metric sizes, see page 126.

| No. | Nominal Openings | Amer. Std. HEAVY Jam Nuts (U.S.S.); Size Bolts | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Jam Nuts; Size Bolts | Extreme Length, Approx. | Thick-ness Heads | LIST PRICE Each Fin-ished | No. |
|------|------------------|--|--|---|-------------------------|------------------|---------------------------|------|
| 623 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | ..... | 4 5/8 | 5/32 | \$.50 | 623 |
| 623D | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 | 4 5/8 | 5/32 | .50 | 623D |
| 624A | 7/16 & 9/16 | ..... | 1/4 & 3/8 | 1/4 & 5/16 | 4 3/4 | 5/32 | .50 | 624A |
| 625 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | ..... | 4 3/4 | 5/32 | .50 | 625 |
| 626 | 1/2 & 11/16 | 1/4 & 3/8 | 5/16 | ..... | 6 | 3/16 | .64 | 626 |
| 626S | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 5/16 & 3/8 | 6 | 3/16 | .64 | 626S |
| 626X | 9/16 & 11/16 | 3/8 | 3/8 | 5/16 | 6 | 3/16 | .64 | 626X |
| 627 | 19/32 & 11/16 | 5/16 & 3/8 | ..... | ..... | 6 | 3/16 | .64 | 627 |
| 629D | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 3/8 & 7/16 | 6 3/4 | 3/16 | .72 | 629D |
| 629 | 11/16 & 25/32 | 3/8 & 7/16 | ..... | ..... | 6 3/4 | 3/16 | .72 | 629 |
| 630 | 11/16 & 7/8 | 3/8 & 1/2 | 9/16 | 9/16 | 7 1/2 | 7/32 | .80 | 630 |
| 630B | 3/4 & 13/16 | ..... | 1/2 | 7/16 & 1/2 | 7 1/2 | 7/32 | .80 | 630B |
| 630E | 3/4 & 7/8 | 1/2 | 1/2 & 9/16 | 7/16 & 9/16 | 7 1/2 | 7/32 | .80 | 630E |
| 631 | 25/32 & 7/8 | 7/16 & 1/2 | 9/16 | ..... | 7 1/2 | 7/32 | .80 | 631 |
| 634 | 7/8 & 1 1/16 | 1/2 & 5/8 | 9/16 & 3/4 | 9/16 | 8 7/8 | 1/4 | 1.12 | 634 |
| 632X | 15/16 & 1 | ..... | 5/8 | 5/8 | 8 7/8 | 1/4 | 1.12 | 632X |
| 637 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | 3/4 & 7/8 | ..... | 10 1/2 | 9/32 | 1.68 | 637 |
| 635G | 1 1/8 & 1 1/4 | 3/4 | 7/8 | 3/4 | 10 1/2 | 9/32 | 1.68 | 635G |
| 639 | 1 1/4 & 1 7/16 | 3/4 & 7/8 | 7/8 & 1 | ..... | 12 1/2 | 3/8 | 2.60 | 639 |
| 640 | 1 1/4 & 1 5/8 | 3/4 & 1 | 7/8 & 1 1/8 | ..... | 12 1/2 | 3/8 | 2.60 | 640 |
| 640A | 1 5/16 & 1 1/2 | ..... | ..... | 7/8 & 1 | 12 1/2 | 3/8 | 2.60 | 640A |

Weights, page G.

† REGISTERED TRADE MARK

WILLIAMS' + "SUPERIOR" HEX-BOX WRENCHES

(Carbon Steel)

REGULAR PATTERN—15° Angle



Unhardened are broached and shot-blasted only.

Finished—see description on page 1.

Designed for use requiring an exceedingly strong tool and where head clearance is limited. Two Patterns—Regular for general work, Heavy for severe service. Wrenches larger than No. 810 Regular and No. H809 Heavy have tapered handle.

These Wrenches can also be furnished, to order, with 12-point openings.

Whitworth Standard sizes start on page 124.

Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge; see illustration at right.



(Continued on opposite page)

| No. | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGLR. Nut | Extreme Length, Approx. | Head | | LIST PRICE | | No. |
|------|------------------------------|-------------------------------|------------------------------|-------------------------------|-----------------------|-------------------------|------------|---------------|------------|-----------|------|
| | | | | | | | Thick-ness | Outside Diam. | Un-hard. | Fin-ished | |
| 800 | 13/32 | 3/16 | 3/16 | ..... | ..... | 3 1/2 | 7/32 | 45/64 | \$.26 | \$.36 | 800 |
| 801A | 7/16 | ..... | 1/4 | 1/4 | 1/4 | 4 | 17/64 | 27/32 | .30 | .42 | 801A |
| 801 | 1/2 | 1/4 | 5/16 | ..... | ..... | 4 | 17/64 | 27/32 | .30 | .42 | 801 |
| 802A | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 4 7/8 | 5/16 | 63/64 | .36 | .50 | 802A |
| 802 | 19/32 | 5/16 | ..... | ..... | ..... | 4 7/8 | 5/16 | 63/64 | .36 | .50 | 802 |
| 803A | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 5 7/8 | 23/64 | 1 9/64 | .42 | .58 | 803A |
| 803 | 11/16 | 3/8 | ..... | ..... | ..... | 5 7/8 | 23/64 | 1 9/64 | .42 | .58 | 803 |
| 804A | 3/4 | ..... | 1/2 | 1/2 | 7/16 | 6 7/8 | 11/32 | 1 3/8 | .50 | .70 | 804A |
| 804 | 25/32 | 7/16 | ..... | ..... | ..... | 6 7/8 | 11/32 | 1 3/8 | .50 | .70 | 804 |
| 805A | 13/16 | ..... | 9/16 | ..... | 1/2 | 7 3/4 | 25/64 | 1 1/2 | .60 | .84 | 805A |
| 805 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 7 3/4 | 25/64 | 1 1/2 | .60 | .84 | 805 |
| 806 | 31/32 | 9/16 | ..... | ..... | ..... | 8 3/4 | 7/16 | 1 5/8 | .72 | 1.00 | 806 |
| 806B | 1 | ..... | 3/4 | ..... | 5/8 | 8 3/4 | 7/16 | 1 5/8 | .72 | 1.00 | 806B |
| 807 | 1 1/16 | 5/8 | ..... | 3/4 | ..... | 9 7/8 | 9/16 | 1 25/32 | .90 | 1.24 | 807 |
| 807A | 1 1/8 | ..... | 7/8 | ..... | 3/4 | 9 7/8 | 9/16 | 1 25/32 | .90 | 1.24 | 807A |
| 808 | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 11 1/2 | 9/16 | 2 1/16 | 1.16 | 1.56 | 808 |
| 808A | 1 5/16 | ..... | 1 | ..... | 7/8 | 11 1/2 | 9/16 | 2 1/16 | 1.16 | 1.56 | 808A |
| 809 | 1 7/16 | 7/8 | ..... | 1 | ..... | 13 3/8 | 21/32 | 2 3/8 | 1.56 | 2.08 | 809 |
| 809A | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 13 3/8 | 21/32 | 2 3/8 | 1.56 | 2.08 | 809A |
| 810 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 15 1/4 | 3/4 | 2 5/8 | 2.10 | 2.80 | 810 |
| 810A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 15 1/4 | 3/4 | 2 5/8 | 2.10 | 2.80 | 810A |
| 811 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 17 1/8 | 13/16 | 2 7/8 | 2.80 | 3.70 | 811 |
| 811A | 1 7/8 | ..... | ..... | ..... | 1 1/4 | 17 1/8 | 13/16 | 2 7/8 | 2.80 | 3.70 | 811A |
| 812 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 19 | 15/16 | 3 1/4 | 3.70 | 4.80 | 812 |
| 813 | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 21 | 1 | 3 1/2 | 4.70 | 6.00 | 813 |
| 813A | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 21 | 1 | 3 1/2 | 4.70 | 6.00 | 813A |
| 814 | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 23 | 1 1/16 | 3 3/4 | 6.00 | 7.50 | 814 |
| 815 | 2 9/16 | 1 5/8 | ..... | ..... | ..... | 25 | 1 1/8 | 4 | 7.50 | 9.20 | 815 |
| 815A | 2 5/8 | ..... | ..... | ..... | 1 3/4 | 25 | 1 1/8 | 4 | 7.50 | 9.20 | 815A |
| 816 | 2 3/4 | 1 3/4 | ..... | ..... | ..... | 27 | 1 1/4 | 4 1/4 | 9.80 | 12.50 | 816 |
| 817A | 3 | ..... | ..... | ..... | 2 | 30 | 1 3/8 | 4 3/4 | 13.00 | 17.00 | 817A |
| 817 | 3 1/8 | 2 | ..... | ..... | ..... | 30 | 1 3/8 | 4 3/4 | 13.00 | 17.00 | 817 |

Weights, page H.

★ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 37-A)

WILLIAMS' + "SUPERIOR" HEX-BOX WRENCHES
(Carbon Steel)

REGULAR PATTERN—15° Angle
(Continued)

The following long Finished Wrenches have hole of size given below in end of handle:
Number, 817 817A 818 818A 819 819A 819AC 819B 820 820B
Hole; diam. 5/8 5/8 3/4 3/4 7/8 7/8 7/8 7/8 1 1 inch

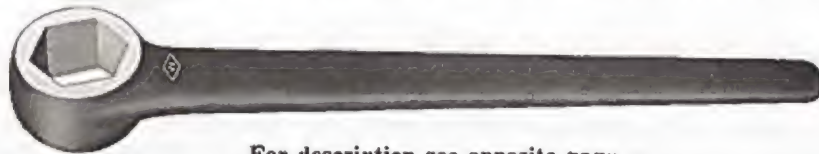
† At extra charge Nos. 818 to 820B inclusive are also furnished with "striking-face" on end of shorter handle as illustrated at right; extreme lengths as follows—



Number, 818 818A 819 819B 819A 819AC 820 820B
Length, 18-1/2 18-1/2 19-1/2 19-1/2 20-1/4 20-1/4 21 21 in.

| No. | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. REGLR. Nut | Extreme Length, Approx. | Head | | LIST PRICE | | No. |
|--------|------------------------------|-------------------------------|-----------------------|-------------------------|------------|---------------|------------|----------|--------|
| | | | | | Thick-ness | Outside Diam. | Unhard. | Finished | |
| †818A | 3 3/8 | ..... | 2 1/4 | †34 | 1 1/2 | 5 1/4 | \$17.00 | \$22.00 | †818A |
| †818 | 3 1/2 | 2 1/4 | ..... | †34 | 1 1/2 | 5 1/4 | 17.00 | 22.00 | †818 |
| †819B | 3 3/4 | ..... | 2 1/2 | †38 | 1 5/8 | 5 7/8 | 23.00 | 29.00 | †819B |
| †819 | 3 7/8 | 2 1/2 | ..... | †38 | 1 5/8 | 5 7/8 | 23.00 | 29.00 | †819 |
| †819AC | 4 1/8 | ..... | 2 3/4 | †42 | 1 3/4 | 6 1/2 | 30.00 | 37.00 | †819AC |
| †819A | 4 1/4 | 2 3/4 | ..... | †42 | 1 3/4 | 6 1/2 | 30.00 | 37.00 | †819A |
| †820B | 4 1/2 | ..... | 3 | †46 | 1 7/8 | 7 | 40.00 | 50.00 | †820B |
| †820 | 4 5/8 | 3 | ..... | †46 | 1 7/8 | 7 | 40.00 | 50.00 | †820 |

+ "SUPERIOR" HEX-BOX WRENCHES—HEAVY PATTERN



For description see opposite page

† At extra charge all Heavy Pattern Hex-Box Wrenches are also furnished with "striking-face" on end of shorter handle as illustrated at right; extreme lengths as follows—



Number, H808 H809 H810 H811 H812 H813 H814 H815 H816 H817A
H808A H809A H810A H811A H813A H815A H817
Length, 7 8 9 10 11 12 13 14 15 17

| No. | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGLR. Nut | Extreme Length, Approx. | Head | | LIST PRICE | | No. |
|--------|------------------------------|-------------------------------|------------------------------|-------------------------------|-----------------------|-------------------------|------------|---------------|------------|-----------|--------|
| | | | | | | | Thick-ness | Outside Diam. | Un-hard. | Fin-ished | |
| †H808 | 1 1/4 | 3/4 | ..... | 7/8 | ..... | †11 1/2 | 13/16 | 2 1/16 | \$ 1.70 | \$ 2.20 | †H808 |
| †H808A | 1 5/16 | ..... | 1 | ..... | 7/8 | †11 1/2 | 13/16 | 2 1/16 | 1.70 | 2.20 | †H808A |
| †H809 | 1 7/16 | 7/8 | ..... | 1 | ..... | †13 3/8 | 15/16 | 2 3/8 | 2.30 | 2.95 | †H809 |
| †H809A | 1 1/2 | ..... | 1 1/8 | ..... | 1 | †13 3/8 | 15/16 | 2 3/8 | 2.30 | 2.95 | †H809A |
| †H810 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | †15 1/4 | 1 1/8 | 2 5/8 | 3.00 | 3.90 | †H810 |
| †H810A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | †15 1/4 | 1 1/8 | 2 5/8 | 3.00 | 3.90 | †H810A |
| †H811 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | †17 | 1 1/4 | 2 15/16 | 4.00 | 5.15 | †H811 |
| †H811A | 1 7/8 | ..... | ..... | 1 1/4 | ..... | †17 | 1 1/4 | 2 15/16 | 4.00 | 5.15 | †H811A |
| †H812 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | †19 | 1 3/8 | 3 1/4 | 5.25 | 6.65 | †H812 |
| †H813 | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | †21 | 1 1/2 | 3 1/2 | 6.70 | 8.40 | †H813 |
| †H813A | 2 1/4 | ..... | ..... | 1 1/2 | ..... | †21 | 1 1/2 | 3 1/2 | 6.70 | 8.40 | †H813A |
| †H814 | 2 3/8 | 1 1/2 | ..... | ..... | ..... | †23 | 1 5/8 | 3 3/4 | 8.50 | 10.50 | †H814 |
| †H815 | 2 9/16 | 1 5/8 | ..... | ..... | ..... | †25 | 1 3/4 | 4 1/8 | 10.50 | 13.00 | †H815 |
| †H815A | 2 5/8 | ..... | ..... | 1 3/4 | ..... | †25 | 1 3/4 | 4 1/8 | 10.50 | 13.00 | †H815A |
| †H816 | 2 3/4 | 1 3/4 | ..... | ..... | ..... | †27 | 1 7/8 | 4 9/16 | 14.00 | 17.50 | †H816 |
| †H817A | 3 | ..... | ..... | ..... | 2 | †30 | 2 | 4 13/16 | 19.00 | 24.00 | †H817A |
| †H817 | 3 1/8 | 2 | ..... | ..... | ..... | †30 | 2 | 4 13/16 | 19.00 | 24.00 | †H817 |

Weights, page H.

★ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 37-A)

WILLIAMS' + "SUPERIOR" SET SCREW WRENCHES
 (Carbon Steel)

22 1/2° Angle, Single Head

For Set Screws, Square Cap Screws and Nuts



These Wrenches are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

| No. | Nominal Opening | For Set Screw; Size | For Square Head Cap Screw | For Amer. Std. REGULAR Square Nut | Extreme Length, Approx. | Thickness Head | LIST PRICE Each Finished | No. |
|-----|-----------------|---------------------|---------------------------|-----------------------------------|-------------------------|----------------|--------------------------|-----|
| 500 | 3/16 | 3/16 | ..... | ..... | 3 | 3/16 | \$.28 | 500 |
| 501 | 1/4 | 1/4 | ..... | ..... | 3 1/2 | 1/4 | .34 | 501 |
| 502 | 5/16 | 5/16 | ..... | ..... | 4 1/4 | 5/16 | .42 | 502 |
| 503 | 3/8 | 3/8 | 1/4 | ..... | 5 | 11/32 | .50 | 503 |
| 504 | 7/16 | 7/16 | 5/16 | 1/4 | 5 3/4 | 3/8 | .62 | 504 |
| 505 | 1/2 | 1/2 | 3/8 | ..... | 6 5/8 | 7/16 | .76 | 505 |
| 506 | 9/16 | 9/16 | 7/16 | 5/16 | 7 1/2 | 1/2 | .92 | 506 |
| 507 | 5/8 | 5/8 | 1/2 | 3/8 | 8 1/2 | 9/16 | 1.10 | 507 |
| 508 | 3/4 | 3/4 | 5/8 | 7/16 | 9 1/2 | 5/8 | 1.36 | 508 |
| 509 | 7/8 | 7/8 | 3/4 | 9/16 | 10 1/2 | 11/16 | 1.68 | 509 |
| 510 | 1 | 1 | ..... | 5/8 | 11 1/2 | 3/4 | 2.20 | 510 |
| 511 | 1 1/8 | 1 1/8 | 7/8 | 3/4 | 12 1/2 | 13/16 | 2.80 | 511 |

Weights, page G.

+ REGISTERED TRADE MARK

10-43

WILLIAMS' + "SUPERIOR" SET SCREW WRENCHES
(Carbon Steel)

22 1/2° Angle, Double Head

For Set Screws, Square Cap Screws and Nuts



These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

| No. | Nominal Openings | For Set Screws; Size | For Square Head Cap Screws; Diam. Screws | For Amer. Std. REGULAR Square Nuts | Ex-treme Length, Approx. | Thick-ness Head | LIST PRICE Each Finished | No. |
|-----|------------------|----------------------|--|------------------------------------|--------------------------|-----------------|--------------------------|-----|
| 523 | 3/16 & 1/4 | 3/16 & 1/4 | ..... | ..... | 3 1/2 | 7/32 | \$.40 | 523 |
| 524 | 3/16 & 5/16 | 3/16 & 5/16 | ..... | ..... | 4 1/4 | 9/32 | .48 | 524 |
| 525 | 1/4 & 5/16 | 1/4 & 5/16 | ..... | ..... | 4 1/4 | 9/32 | .48 | 525 |
| 526 | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 | ..... | 5 | 11/32 | .58 | 526 |
| 527 | 5/16 & 3/8 | 5/16 & 3/8 | 1/4 | ..... | 5 | 11/32 | .58 | 527 |
| 528 | 5/16 & 7/16 | 5/16 & 7/16 | 5/16 | 1/4 | 5 3/4 | 3/8 | .70 | 528 |
| 529 | 3/8 & 7/16 | 3/8 & 7/16 | 1/4 & 5/16 | 1/4 | 5 3/4 | 3/8 | .70 | 529 |
| 530 | 3/8 & 1/2 | 3/8 & 1/2 | 1/4 & 3/8 | ..... | 6 5/8 | 7/16 | .90 | 530 |
| 531 | 7/16 & 1/2 | 7/16 & 1/2 | 5/16 & 3/8 | 1/4 | 6 5/8 | 7/16 | .90 | 531 |
| 532 | 7/16 & 9/16 | 7/16 & 9/16 | 5/16 & 7/16 | 1/4 & 5/16 | 7 1/2 | 1/2 | 1.08 | 532 |
| 533 | 1/2 & 9/16 | 1/2 & 9/16 | 3/8 & 7/16 | 5/16 | 7 1/2 | 1/2 | 1.08 | 533 |
| 534 | 1/2 & 5/8 | 1/2 & 5/8 | 3/8 & 1/2 | 3/8 | 8 1/2 | 9/16 | 1.30 | 534 |
| 535 | 9/16 & 5/8 | 9/16 & 5/8 | 7/16 & 1/2 | 5/16 & 3/8 | 8 1/2 | 9/16 | 1.30 | 535 |
| 536 | 9/16 & 3/4 | 9/16 & 3/4 | 7/16 & 5/8 | 5/16 & 7/16 | 9 3/4 | 5/8 | 1.60 | 536 |
| 537 | 5/8 & 3/4 | 5/8 & 3/4 | 1/2 & 5/8 | 3/8 & 7/16 | 9 3/4 | 5/8 | 1.60 | 537 |
| 538 | 5/8 & 7/8 | 5/8 & 7/8 | 1/2 & 3/4 | 3/8 & 9/16 | 11 | 11/16 | 2.00 | 538 |
| 539 | 3/4 & 7/8 | 3/4 & 7/8 | 5/8 & 3/4 | 7/16 & 9/16 | 11 | 11/16 | 2.00 | 539 |
| 540 | 3/4 & 1 | 3/4 & 1 | 5/8 | 7/16 & 5/8 | 12 1/2 | 3/4 | 2.60 | 540 |
| 541 | 7/8 & 1 | 7/8 & 1 | 3/4 | 9/16 & 5/8 | 12 1/2 | 3/4 | 2.60 | 541 |
| 542 | 7/8 & 1 1/8 | 7/8 & 1 1/8 | 3/4 & 7/8 | 9/16 & 3/4 | 14 | 13/16 | 3.50 | 542 |
| 543 | 1 & 1 1/8 | 1 & 1 1/8 | 7/8 | 5/8 & 3/4 | 14 | 13/16 | 3.50 | 543 |

Weights, page G.

✦ REGISTERED TRADE MARK

WILLIAMS' + "SUPERIOR" S WRENCHES WITH FLAT HANDLE
(Carbon Steel)

22 1/2° Angle, Double Head



For Standard Nuts
and Cap Screws

Finished are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright. Whitworth Standard sizes, see page 126.

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U. S. S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | LIST PRICE Finished | No. |
|------|---------------------|--|--|--|---|-------------------------------|---------------------------|------|
| 661D | 5/16 & 3/8 | 1/8 | 1/8 & 3/16 | 5/16 | | 4 | \$.44 | 661D |
| 661G | 3/8 & 1/2 | | 3/16 & 5/16 | 5/16 | | 4 | .44 | 661G |
| 661C | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | 5/16 | | 4 | .44 | 661C |
| 662D | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 | .58 | 662D |
| 662E | 7/16 & 9/16 | | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 & 5/16 | 5 | .58 | 662E |
| 662B | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | | 5 | .58 | 662B |
| 663D | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 1/4 | .78 | 663D |
| 663E | 9/16 & 3/4 | | 3/8 & 1/2 | 3/8 & 1/2 | 5/16 & 7/16 | 6 1/4 | .78 | 663E |
| 663A | 19/32 & 11/16 | 5/16 & 3/8 | | | | 6 1/4 | .78 | 663A |
| 663F | 5/8 & 3/4 | | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 6 1/4 | .78 | 663F |
| 663C | 11/16 & 25/32 | 3/8 & 7/16 | | | | 6 1/4 | .78 | 663C |
| 664A | 11/16 & 7/8 | 3/8 & 1/2 | 5/8 | 9/16 | 9/16 | 7 1/2 | 1.06 | 664A |
| 664D | 3/4 & 13/16 | | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 7 1/2 | 1.06 | 664D |
| 664E | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 7 1/2 | 1.06 | 664E |
| 664B | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | 7 1/2 | 1.06 | 664B |
| 665D | 13/16 & 1 | | 9/16 & 3/4 | | 1/2 & 5/8 | 9 | 1.44 | 665D |
| 665A | 7/8 & 31/32 | 1/2 & 9/16 | 5/8 | 9/16 | 9/16 | 9 | 1.44 | 665A |
| 665B | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 9 | 1.44 | 665B |
| 666B | 1 1/16 & 1 1/4 | 5/8 & 3/4 | | 3/4 & 7/8 | | 10 1/2 | 2.00 | 666B |
| 666S | 1 1/8 & 1 5/16 | | 7/8 & 1 | | 3/4 & 7/8 | 10 1/2 | 2.00 | 666S |
| 667A | 1 1/4 & 1 7/16 | 3/4 & 7/8 | | 7/8 & 1 | | 12 | 2.90 | 667A |
| 667C | 1 7/16 & 1 5/8 | 7/8 & 1 | | 1 & 1 1/8 | | 12 | 2.90 | 667C |
| 668C | 1 5/8 & 2 | 1 & 1 1/4 | | 1 1/8 & 1 3/8 | | 14 | 5.00 | 668C |

Weights, pages G and H.

★ REGISTERED TRADE MARK

10-42

WILLIAMS' + "SUPERIOR" LIGHT SERVICE WRENCHES

(Carbon Steel)

22 1/2° Angle, Double Head

Long and Light



Unfinished are milled, sizes stamped on heads, hardened and shot-blasted.

Finished are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Supplied in Whitworth Standard and Metric Measure; see page 126.

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | Ex-treme Length, Approx. | LIST PRICE | | No. |
|-----|------------------|--|--|--|-------------------------------------|--------------------------|-------------|-----------|-----|
| | | | | | | | Unfin-ished | Fin-ished | |
| 75C | 1/4 & 5/16 | 1/8 | 1/8 | ..... | ..... | 6 1/4 | \$.45 | \$.54 | 75C |
| 75B | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 6 1/4 | .45 | .54 | 75B |
| 75A | 3/8 & 1/2 | 1/4 | 3/16 & 5/16 | 5/16 | ..... | 6 1/4 | .45 | .54 | 75A |
| 75 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | 5/16 | ..... | 6 1/4 | .45 | .54 | 75 |
| 77S | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 7 1/4 | .58 | .68 | 77S |
| 77B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 7 1/4 | .58 | .68 | 77B |
| 77 | 1/2 & 5/8 | 1/4 | 5/16 & 7/16 | 5/16 & 7/16 | 3/8 | 7 1/4 | .58 | .68 | 77 |
| 79S | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 8 1/4 | .73 | .86 | 79S |
| 79D | 19/32 & 11/16 | 5/16 & 3/8 | ..... | ..... | ..... | 8 1/4 | .73 | .86 | 79D |
| 79 | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | 3/8 | 8 1/4 | .73 | .86 | 79 |
| 79C | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 8 1/4 | .73 | .86 | 79C |
| 81H | 5/8 & 13/16 | ..... | 7/16 & 9/16 | 7/16 | 3/8 & 1/2 | 9 1/4 | .93 | 1.10 | 81H |
| 81B | 3/4 & 13/16 | ..... | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 9 1/4 | .93 | 1.10 | 81B |
| 81A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 9 1/4 | .93 | 1.10 | 81A |
| 83B | 7/8 & 1 | 1/2 | 5/8 & 3/4 | 9/16 | 9/16 & 5/8 | 10 3/8 | 1.16 | 1.40 | 83B |
| 83C | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 10 3/8 | 1.16 | 1.40 | 83C |
| 85 | 1 & 1 1/8 | ..... | 3/4 & 7/8 | ..... | 5/8 & 3/4 | 12 | 1.65 | 2.00 | 85 |
| 85C | 1 1/16 & 1 1/4 | 5/8 & 3/4 | ..... | 3/4 & 7/8 | ..... | 12 | 1.65 | 2.00 | 85C |

Sets, pages 28 and 29.

Weights, page F.

† REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 34)

WILLIAMS' "SUPERIOR" OFFSET ANGLE WRENCHES

(Carbon Steel)

22 1/4° Angle, Double Head

DISCONTINUED
WILL SUPPLY UNTIL
STOCK IS EXHAUSTED



These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Whitworth Standard sizes, see page 126.

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Ex- treme Length, Approx. | LIST PRICE Each Finished | No. |
|------|---------------------|---|--|--|---|------------------------------------|-----------------------------------|------|
| 760A | 5/16 & 1/2 | 1/8 & 1/4 | 1/8 & 5/16 | 5/16 | ..... | 4 3/4 | \$.50 | 760A |
| 760B | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | 5/16 | ..... | 4 3/4 | .50 | 760B |
| 760Y | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 4 3/4 | .50 | 760Y |
| 761X | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 5 3/4 | .62 | 761X |
| 761 | 1/2 & 5/8 | 1/4 | 5/16 & 7/16 | 5/16 & 7/16 | 3/8 | 5 3/4 | .62 | 761 |
| 761Z | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 5 3/4 | .62 | 761Z |
| 761C | 19/32 & 11/16 | 5/16 & 3/8 | ..... | ..... | ..... | 5 3/4 | .62 | 761C |
| 762Y | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 7 | .80 | 762Y |
| 762B | 11/16 & 25/32 | 3/8 & 7/16 | ..... | ..... | ..... | 7 | .80 | 762B |
| 762C | 11/16 & 7/8 | 3/8 & 1/2 | 5/8 | 9/16 | 9/16 | 7 | .80 | 762C |
| 763Y | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 8 1/4 | 1.06 | 763Y |
| 763A | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | 8 1/4 | 1.06 | 763A |
| 764H | 13/16 & 1 | ..... | 9/16 & 3/4 | ..... | 1/2 & 5/8 | 9 1/2 | 1.44 | 764H |
| 764D | 15/16 & 1 1/16 | 5/8 | ..... | 5/8 & 3/4 | ..... | 9 1/2 | 1.44 | 764D |
| 764B | 31/32 & 1 1/16 | 9/16 & 5/8 | ..... | 3/4 | ..... | 9 1/2 | 1.44 | 764B |
| 765A | 1 1/16 & 1 1/4 | 5/8 & 3/4 | ..... | 3/4 & 7/8 | ..... | 11 | 1.92 | 765A |
| 765C | 1 1/4 & 1 7/16 | 3/4 & 7/8 | ..... | 7/8 & 1 | ..... | 11 | 1.92 | 765C |

Weights, page H.

† REGISTERED TRADE MARK

10-42

WILLIAMS' + "SUPERIOR" SQUARE BOX WRENCHES (Carbon Steel)

22 1/2° Angle, Single Head

For Set Screws, Square Cap Screws and Nuts



Unhardened are broached and shot-blasted.

Finished are broached, surface and edges smooth, hardened and black enameled (baked on)—heads bright.

These Wrenches can also be furnished, to order, with 8-point openings.

| No. | Nominal Opening | For Set Screw; Size | For Square Head Cap Screw | Amer. Std. REGLR. Square Nut | Extreme Length, Approx. | Head | | LIST PRICE | | No. |
|-----|-----------------|---------------------|---------------------------|------------------------------|-------------------------|-----------|---------------|------------|----------|-----|
| | | | | | | Thickness | Outside Diam. | Unhardened | Finished | |
| 580 | 3/16 | 3/16 | ..... | ..... | 3 | 1/4 | 1/2 | \$.22 | \$.30 | 580 |
| 581 | 1/4 | 1/4 | ..... | ..... | 3 3/8 | 9/32 | 5/8 | .24 | .34 | 581 |
| 582 | 5/16 | 5/16 | ..... | ..... | 3 3/4 | 5/16 | 11/16 | .28 | .40 | 582 |
| 583 | 3/8 | 3/8 | 1/4 | ..... | 4 1/4 | 3/8 | 27/32 | .32 | .48 | 583 |
| 584 | 7/16 | 7/16 | 5/16 | 1/4 | 4 7/8 | 7/16 | 31/32 | .38 | .56 | 584 |
| 585 | 1/2 | 1/2 | 3/8 | ..... | 5 1/2 | 15/32 | 1 1/16 | .46 | .68 | 585 |
| 586 | 9/16 | 9/16 | 7/16 | 5/16 | 6 1/4 | 1/2 | 1 3/16 | .56 | .82 | 586 |
| 587 | 5/8 | 5/8 | 1/2 | 3/8 | 7 | 9/16 | 1 5/16 | .70 | 1.00 | 587 |
| 588 | 3/4 | 3/4 | 5/8 | 7/16 | 8 | 5/8 | 1 9/16 | .88 | 1.24 | 588 |
| 589 | 7/8 | 7/8 | 3/4 | 9/16 | 9 | 11/16 | 1 25/32 | 1.20 | 1.62 | 589 |
| 590 | 1 | 1 | ..... | 5/8 | 10 | 3/4 | 2 | 1.60 | 2.10 | 590 |

Weights, page G.

+ REGISTERED TRADE MARK

WILLIAMS' "SUPERIOR" MACHINE WRENCHES
(Carbon Steel)

Extra Heavy for Planers
Milling Machines, Lathes, Drill Presses, etc.



These Wrenches are milled, surface and edges smooth, size stamped on large head, hardened and black enameled (baked on)—heads bright.

| No. | Large Head for U. S. Standard Nut | | Small Head | | | | Ex- treme Length, Approx. | Thick- ness Heads | LIST PRICE Each Fin- ished | No. |
|------|---|--------------|--------------------|------------------------------|---------------------------------------|--|------------------------------------|-------------------------|--|------|
| | Nominal Opening | Size Bolt | Nominal Opening | For Set Screw; Size | For Square Head Cap Screw | Amer. Std. REGLT. Square Nut | | | | |
| 595 | 11/16 | 3/8 | 3/8 | 3/8 | 1/4 | ..... | 6 1/2 | 17/32 | \$1.16 | 595 |
| 595B | 11/16 | 3/8 | 7/16 | 7/16 | 5/16 | 1/4 | 6 1/2 | 17/32 | 1.16 | 595B |
| 595C | 11/16 | 3/8 | 1/2 | 1/2 | 3/8 | ..... | 6 1/2 | 17/32 | 1.16 | 595C |
| 595D | 25/32 | 7/16 | 3/8 | 3/8 | 1/4 | ..... | 6 1/2 | 17/32 | 1.16 | 595D |
| 595E | 25/32 | 7/16 | 7/16 | 7/16 | 5/16 | 1/4 | 6 1/2 | 17/32 | 1.16 | 595E |
| 595F | 25/32 | 7/16 | 1/2 | 1/2 | 3/8 | ..... | 6 1/2 | 17/32 | 1.16 | 595F |
| 596 | 7/8 | 1/2 | 7/16 | 7/16 | 5/16 | 1/4 | 7 1/2 | 19/32 | 1.44 | 596 |
| 596B | 7/8 | 1/2 | 1/2 | 1/2 | 3/8 | ..... | 7 1/2 | 19/32 | 1.44 | 596B |
| 596C | 7/8 | 1/2 | 9/16 | 9/16 | 7/16 | 5/16 | 7 1/2 | 19/32 | 1.44 | 596C |
| 596D | 7/8 | 1/2 | 5/8 | 5/8 | 1/2 | 3/8 | 7 1/2 | 19/32 | 1.44 | 596D |
| 596E | 31/32 | 9/16 | 7/16 | 7/16 | 5/16 | 1/4 | 7 1/2 | 19/32 | 1.44 | 596E |
| 596F | 31/32 | 9/16 | 1/2 | 1/2 | 3/8 | ..... | 7 1/2 | 19/32 | 1.44 | 596F |
| 596G | 31/32 | 9/16 | 9/16 | 9/16 | 7/16 | 5/16 | 7 1/2 | 19/32 | 1.44 | 596G |
| 596H | 31/32 | 9/16 | 5/8 | 5/8 | 1/2 | 3/8 | 7 1/2 | 19/32 | 1.44 | 596H |
| 597 | 1 1/16 | 5/8 | 9/16 | 9/16 | 7/16 | 5/16 | 8 1/2 | 11/16 | 1.92 | 597 |
| 597B | 1 1/16 | 5/8 | 5/8 | 5/8 | 1/2 | 3/8 | 8 1/2 | 11/16 | 1.92 | 597B |
| 597C | 1 1/16 | 5/8 | 3/4 | 3/4 | 5/8 | 7/16 | 8 1/2 | 11/16 | 1.92 | 597C |
| 598 | 1 1/4 | 3/4 | 3/4 | 3/4 | 5/8 | 7/16 | 10 | 13/16 | 2.70 | 598 |
| 598B | 1 1/4 | 3/4 | 7/8 | 7/8 | 3/4 | 9/16 | 10 | 13/16 | 2.70 | 598B |
| 598C | 1 1/4 | 3/4 | 1 | 1 | ..... | 5/8 | 10 | 13/16 | 2.70 | 598C |
| 598D | 1 7/16 | 7/8 | 3/4 | 3/4 | 5/8 | 7/16 | 10 | 13/16 | 2.70 | 598D |
| 598E | 1 7/16 | 7/8 | 7/8 | 7/8 | 3/4 | 9/16 | 10 | 13/16 | 2.70 | 598E |
| 598F | 1 7/16 | 7/8 | 1 | 1 | ..... | 5/8 | 10 | 13/16 | 2.70 | 598F |

Weights, page G.

† REGISTERED TRADE MARK

10-42

†“SUPERIOR” TOOL POST WRENCHES
(Carbon Steel)

For Set Screws



Nos. 554 to 557

For Nuts and Set Screws



Nos. 562B to 568D

Finished are milled and broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

For Set Screws

| No. | Open End for Set Screw; Size | Closed End for Set Screw; Size | Extreme Length, Approx. | Thickness Heads | LIST PRICE Finished | No. |
|------|---------------------------------------|---|-------------------------------|--------------------|---------------------------|------|
| 554 | 7/16 | 7/16 | 5 1/2 | 1/2 | \$1.12 | 554 |
| 555 | 1/2 | 1/2 | 6 | 9/16 | 1.24 | 555 |
| 555B | 9/16 | 1/2 | 6 | 9/16 | 1.24 | 555B |
| 555C | 9/16 | 9/16 | 6 | 9/16 | 1.24 | 555C |
| 556 | 5/8 | 5/8 | 7 | 5/8 | 1.44 | 556 |
| 556B | 11/16 | 5/8 | 7 | 5/8 | 1.44 | 556B |
| 556C | 11/16 | 11/16 | 7 | 5/8 | 1.44 | 556C |
| 557 | 3/4 | 3/4 | 7 5/8 | 11/16 | 1.64 | 557 |

***For Nuts and Set Screws**

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. REGULAR Nut Size Bolt | Closed End for Set Screw; Size | Extreme Length, Approx. | Thickness Heads | LIST PRICE Finished | No. |
|------|--------------------|--|---|---|-------------------------------|--------------------|---------------------------|------|
| 562B | 5/8 | ..... | 3/8 | 9/16 | 6 1/2 | 1/2 | \$1.32 | 562B |
| 562 | 11/16 | 3/8 | ..... | 9/16 | 6 1/2 | 1/2 | 1.32 | 562 |
| 563E | 13/16 | ..... | 1/2 | 7/16 | 7 | 9/16 | 1.44 | 563E |
| 563F | 13/16 | ..... | 1/2 | 1/2 | 7 | 9/16 | 1.44 | 563F |
| 563G | 13/16 | ..... | 1/2 | 9/16 | 7 | 9/16 | 1.44 | 563G |
| 563H | 13/16 | ..... | 1/2 | 5/8 | 7 | 9/16 | 1.44 | 563H |
| 563 | 7/8 | 1/2 | 9/16 | 7/16 | 7 | 9/16 | 1.44 | 563 |
| 563B | 7/8 | 1/2 | 9/16 | 1/2 | 7 | 9/16 | 1.44 | 563B |
| 563C | 7/8 | 1/2 | 9/16 | 9/16 | 7 | 9/16 | 1.44 | 563C |
| 563D | 7/8 | 1/2 | 9/16 | 5/8 | 7 | 9/16 | 1.44 | 563D |
| 564C | 1 | ..... | 5/8 | 5/8 | 7 1/2 | 5/8 | 1.64 | 564C |
| 564 | 1 1/16 | 5/8 | ..... | 5/8 | 7 1/2 | 5/8 | 1.64 | 564 |
| 565C | 1 | ..... | 5/8 | 3/4 | 8 | 5/8 | 1.94 | 565C |
| 565 | 1 1/16 | 5/8 | ..... | 3/4 | 8 | 5/8 | 1.94 | 565 |
| 566C | 1 1/8 | ..... | 3/4 | 3/4 | 9 1/4 | 3/4 | 2.40 | 566C |
| 566D | 1 1/8 | ..... | 3/4 | 7/8 | 9 1/4 | 3/4 | 2.40 | 566D |
| 566 | 1 1/4 | 3/4 | ..... | 3/4 | 9 1/4 | 3/4 | 2.40 | 566 |
| 566B | 1 1/4 | 3/4 | ..... | 7/8 | 9 1/4 | 3/4 | 2.40 | 566B |
| 567D | 1 1/8 | ..... | 3/4 | 1 | 10 | 7/8 | 3.20 | 567D |
| 567 | 1 1/4 | 3/4 | ..... | 1 | 10 | 7/8 | 3.20 | 567 |
| 567E | 1 5/16 | ..... | 7/8 | 7/8 | 10 | 7/8 | 3.20 | 567E |
| 567F | 1 5/16 | ..... | 7/8 | 1 | 10 | 7/8 | 3.20 | 567F |
| 567B | 1 7/16 | 7/8 | ..... | 7/8 | 10 | 7/8 | 3.20 | 567B |
| 567C | 1 7/16 | 7/8 | ..... | 1 | 10 | 7/8 | 3.20 | 567C |
| 568E | 1 1/2 | ..... | 1 | 7/8 | 11 | 15/16 | 4.40 | 568E |
| 568F | 1 1/2 | ..... | 1 | 1 | 11 | 15/16 | 4.40 | 568F |
| 568 | 1 5/8 | 1 | ..... | 7/8 | 11 | 15/16 | 4.40 | 568 |
| 568B | 1 5/8 | 1 | ..... | 1 | 11 | 15/16 | 4.40 | 568B |
| 568G | 1 11/16 | ..... | 1 1/8 | 1 | 11 | 15/16 | 4.40 | 568G |
| 568H | 1 7/8 | ..... | 1 1/4 | 1 | 11 | 15/16 | 4.40 | 568H |
| 568C | 1 13/16 | 1 1/8 | ..... | 1 | 11 | 15/16 | 4.40 | 568C |
| 568D | 2 | 1 1/4 | ..... | 1 | 11 | 15/16 | 4.40 | 568D |

*Whitworth Standard sizes start on page 124.

Weights, page G.

† REGISTERED TRADE MARK

WILLIAMS' + "SUPERIOR" CONSTRUCTION WRENCHES
(Carbon Steel)

15° Angle



These Wrenches with deep opening provide substantial bearing on square nuts. The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

Hardened are milled, hardened all over, shot-blasted; heads not bright.

Whitworth Standard sizes, see page 125.

Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge; see illustration at right.



| No. | Nominal Opening | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. REGULAR Nut Size Bolt | Extreme Length, Approx. | Thickness Head | LIST PRICE Hardened | No. |
|------|-----------------|--|--------------------------------------|-------------------------|----------------|---------------------|------|
| 201A | 7/16 | ..... | 1/4 | 9 1/2 | 3/8 | \$.75 | 201A |
| 201 | 1/2 | 1/4 | ..... | 9 1/2 | 3/8 | .75 | 201 |
| 201B | 9/16 | ..... | 5/16 | 9 1/2 | 3/8 | .75 | 201B |
| 202 | 19/32 | 5/16 | ..... | 9 1/2 | 3/8 | .75 | 202 |
| 203A | 5/8 | ..... | 3/8 | 12 | 7/16 | .95 | 203A |
| 203 | 11/16 | 3/8 | ..... | 12 | 7/16 | .95 | 203 |
| 204A | 3/4 | ..... | 7/16 | 12 | 7/16 | .95 | 204A |
| 204 | 25/32 | 7/16 | ..... | 12 | 7/16 | .95 | 204 |
| 205A | 13/16 | ..... | 1/2 | 14 1/2 | 17/32 | 1.20 | 205A |
| *205 | 7/8 | 1/2 | 9/16 | 14 1/2 | 17/32 | 1.20 | *205 |
| *206 | 31/32 | 9/16 | ..... | 14 1/2 | 17/32 | 1.20 | *206 |
| 206B | 1 | ..... | 5/8 | 14 1/2 | 17/32 | 1.20 | 206B |
| *207 | 1 1/16 | 5/8 | ..... | 17 | 5/8 | 1.55 | *207 |
| 207A | 1 1/8 | ..... | 3/4 | 17 | 5/8 | 1.55 | 207A |
| *208 | 1 1/4 | 3/4 | ..... | 19 | 11/16 | 2.05 | *208 |
| 208A | 1 5/16 | ..... | 7/8 | 19 | 11/16 | 2.05 | 208A |
| *209 | 1 7/16 | 7/8 | ..... | 21 | 3/4 | 2.70 | *209 |
| 209A | 1 1/2 | ..... | 1 | 21 | 3/4 | 2.70 | 209A |
| 210 | 1 5/8 | 1 | ..... | 23 | 27/32 | 3.60 | 210 |
| 210A | 1 11/16 | ..... | 1 1/8 | 23 | 27/32 | 3.60 | 210A |
| 211 | 1 13/16 | 1 1/8 | ..... | 25 | 15/16 | 5.30 | 211 |
| 211A | 1 7/8 | ..... | 1 1/4 | 25 | 15/16 | 5.30 | 211A |
| 212 | 2 | 1 1/4 | ..... | 25 | 15/16 | 5.30 | 212 |

*Carried in stock with short tangs for oil construction and derrick service. Details on request.

Weights, page F.

† REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 35)

10-42

WILLIAMS' "SUPERIOR" STRUCTURAL WRENCHES
(Carbon Steel)

Straight Opening



The jaws of these Wrenches are narrow and long, providing substantially full bearing on square nuts. The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

The abrupt offset and angle of handle provide for clearance of obstructions, even when these are close to the head, and safety to the operator's hands. The wrench is particularly well balanced. When thrust into slit of scabbard or belt-loop the "step-up" of the round above the flat part of handle acts as a stop. It retains the wrench, yet allows its ready release.

For explanation of finish, see previous page. Whitworth Standard sizes, see page 126.

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. REGLR. Nut; Size Bolt | Extreme Length, Approx. | Thick-ness Head | Handle Offset | | LIST PRICE Hardened | No. |
|------|-----------------|--|----------------------------------|-------------------------|-----------------|---------------|---------|---------------------|------|
| | | | | | | At Head | At End | | |
| 901A | 7/16 | ..... | 1/4 | 9 1/2 | 11/32 | 9/16 | 1 1/2 | \$.80 | 901A |
| 901 | 1 1/2 | 1/4 | ..... | 9 1/2 | 11/32 | 9/16 | 1 1/2 | .80 | 901 |
| 901B | 9/16 | ..... | 5/16 | 9 1/2 | 11/32 | 9/16 | 1 1/2 | .80 | 901B |
| 902 | 1 19/32 | 5/16 | ..... | 9 1/2 | 11/32 | 9/16 | 1 1/2 | .80 | 902 |
| 903A | 5/8 | ..... | 3/8 | 12 | 7/16 | 3/4 | 1 11/16 | 1.05 | 903A |
| *903 | 1 11/16 | 3/8 | ..... | 12 | 7/16 | 3/4 | 1 11/16 | 1.05 | *903 |
| 904A | 3/4 | ..... | 7/16 | 12 | 7/16 | 3/4 | 1 11/16 | 1.05 | 904A |
| 904 | 1 25/32 | 7/16 | ..... | 12 | 7/16 | 3/4 | 1 11/16 | 1.05 | 904 |
| 905A | 13/16 | ..... | 1/2 | 14 1/2 | 17/32 | 7/8 | 1 7/8 | 1.40 | 905A |
| 905B | 7/8 | ..... | 9/16 | 14 1/2 | 17/32 | 7/8 | 1 7/8 | 1.40 | 905B |
| *905 | 1 7/8 | 1/2 | ..... | 14 1/2 | 17/32 | 7/8 | 1 7/8 | 1.40 | *905 |
| *906 | 1 | ..... | 5/8 | 14 1/2 | 17/32 | 7/8 | 1 7/8 | 1.40 | *906 |
| *907 | 1 1/16 | 5/8 | ..... | 17 | 5/8 | 1 | 2 3/8 | 1.85 | *907 |
| 907A | 1 1/8 | ..... | 3/4 | 17 | 5/8 | 1 | 2 3/8 | 1.85 | 907A |
| *908 | 1 1/4 | 3/4 | ..... | 19 | 11/16 | 1 1/8 | 2 3/4 | 2.35 | *908 |
| 908A | 1 5/16 | ..... | 7/8 | 19 | 11/16 | 1 1/8 | 2 3/4 | 2.35 | 908A |
| *909 | 1 7/16 | 7/8 | ..... | 21 | 3/4 | 1 1/4 | 3 1/16 | 3.00 | *909 |
| | 1 1/2 | ..... | 1 | | | | | | |
| *910 | 1 5/8 | 1 | ..... | 23 | 13/16 | 1 7/16 | 3 3/8 | 4.10 | *910 |
| | 1 11/16 | ..... | 1 1/8 | | | | | | |
| 910A | 1 13/16 | 1 1/8 | ..... | 23 | 13/16 | 1 7/16 | 3 3/8 | 4.10 | 910A |
| | 1 7/8 | ..... | 1 1/4 | | | | | | |
| 911 | 1 13/16 | 1 1/8 | ..... | 25 | 7/8 | 1 5/8 | 3 11/16 | 6.15 | 911 |
| | 1 7/8 | ..... | 1 1/4 | | | | | | |
| 912 | 2 | 1 1/4 | ..... | 25 | 7/8 | 1 5/8 | 3 11/16 | 6.15 | 912 |

†Based on U. S. S. Nut Formula. Actual openings are 1/32 to 1/16" larger for proper clearance on rough nuts and bolts.

* Carried in stock with short tangs for oil construction and derrick service. Details on request.

† REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 35)

Weights, page H.

WILLIAMS' + "SUPERIOR" HEAVY "S" OR CAR WRENCHES
(Carbon Steel)

22 1/2° Angle, Double Head

Long Leverage



Unhardened are milled only.

Hardened are milled, hardened all over, shot-blasted; heads not bright.

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | Ex-treme Length, Approx. | LIST PRICE | | No. |
|--------|------------------|--|-------------------------------------|--------------------------|---------------------------------|-----------|------|
| | | | | | Unhard-ened | Hard-ened | |
| 367A | 5/8 & 13/16 | ..... | 3/8 & 1/2 | 12 | DISCONTINUED FOR "THE DURATION" | \$1.50 | 367A |
| 367 | 11/16 & 7/8 | 3/8 & 1/2 | ..... | 12 | | 1.50 | 367 |
| 370 | 7/8 & 1 1/16 | 1/2 & 5/8 | ..... | 19 | | 2.50 | 370 |
| 370B | 1 & 1 1/8 | ..... | 5/8 & 3/4 | 19 | | 2.50 | 370B |
| * 372A | 1 1/16 & 1 1/4 | 5/8 & 3/4 | ..... | 20 | | 3.10 | 372A |
| 373 | 1 1/8 & 1 5/16 | ..... | 3/4 & 7/8 | 20 | | 3.10 | 373 |
| 376 | 1 5/16 & 1 1/2 | ..... | 7/8 & 1 | 21 | | 3.70 | 376 |
| 377 | 1 5/16 & 1 11/16 | ..... | 7/8 & 1 1/8 | 22 | | 4.50 | 377 |
| † 378A | 1 7/16 & 1 5/8 | 7/8 & 1 | ..... | 22 | | 4.50 | 378A |
| 379 | 1 1/2 & 1 11/16 | ..... | 1 & 1 1/8 | 22 | | 4.50 | 379 |
| 382 | 1 11/16 & 1 7/8 | ..... | 1 1/8 & 1 1/4 | 23 | | 5.30 | 382 |
| 383B | 1 7/8 & 2 1/4 | ..... | 1 1/4 & 1 1/2 | 24 | | 6.30 | 383B |
| 387 | 1 13/16 & 2 3/8 | 1 1/8 & 1 1/2 | ..... | 25 | | 9.00 | 387 |

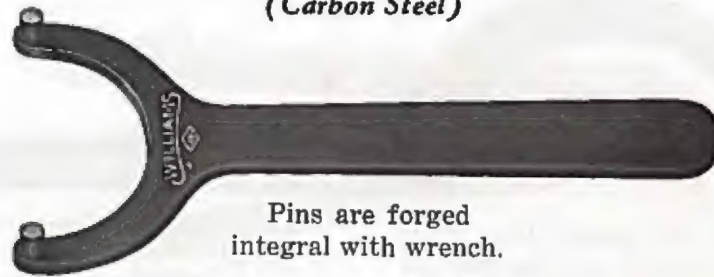
*No. 372A supersedes Old No. 373 previously listed for 5/8 & 3/4" U. S. Nuts.

†No. 378A supersedes Old No. 379 previously listed for 7/8 & 1" U. S. Nuts.

Weights, page F.

★ REGISTERED TRADE MARK

WILLIAMS' + "SUPERIOR" FACE SPANNERS
(Carbon Steel)

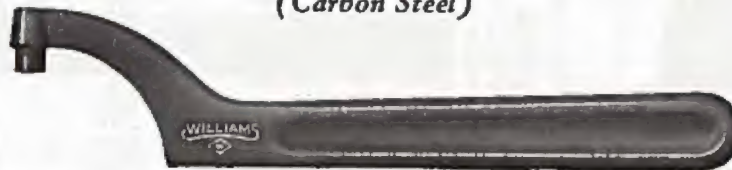


Pins are forged
integral with wrench.

These Wrenches have surfaces smoothed, pins milled, hardened all over and black enameled.

| No. | Pins | | | Span of Jaws in Clear | Length from C. of Pins | Thick- ness | LIST PRICE Each Finished | No. |
|-----|--------------------|--------------------|--------|--------------------------------|---------------------------------|----------------|-----------------------------------|-----|
| | Distance C to C | Diameter Milled | Length | | | | | |
| 418 | 1 | 3/16 | 3/16 | 11/16 | 4 1/2 | 3/16 | \$.60 | 418 |
| 420 | 1 1/4 | 7/32 | 7/32 | 7/8 | 5 | 3/16 | .66 | 420 |
| 422 | 1 1/2 | 7/32 | 7/32 | 1 1/8 | 5 1/2 | 3/16 | .74 | 422 |
| 424 | 1 3/4 | 7/32 | 7/32 | 1 3/8 | 6 | 7/32 | .84 | 424 |
| 426 | 2 | 1/4 | 1/4 | 1 19/32 | 6 1/2 | 7/32 | .96 | 426 |
| 428 | 2 1/4 | 1/4 | 1/4 | 1 27/32 | 7 | 7/32 | 1.10 | 428 |
| 430 | 2 1/2 | 9/32 | 9/32 | 2 1/32 | 7 1/2 | 1/4 | 1.28 | 430 |
| 432 | 2 3/4 | 9/32 | 9/32 | 2 9/32 | 8 | 1/4 | 1.48 | 432 |
| 434 | 3 | 5/16 | 5/16 | 2 1/2 | 8 1/2 | 1/4 | 1.70 | 434 |
| 436 | 3 1/4 | 5/16 | 5/16 | 2 3/4 | 9 1/8 | 1/4 | 1.94 | 436 |
| 438 | 3 1/2 | 5/16 | 5/16 | 3 | 9 3/4 | 1/4 | 2.20 | 438 |
| 440 | 3 3/4 | 3/8 | 3/8 | 3 3/16 | 10 3/8 | 1/4 | 2.50 | 440 |
| 442 | 4 | 3/8 | 3/8 | 3 7/16 | 11 | 1/4 | 2.90 | 442 |

+ "SUPERIOR" PIN SPANNERS
(Carbon Steel)



Pins are forged integral with wrench. For conditions of finish, see above.

| Number | For Circle; Diameter | Extreme Length, Approx. | Finished Diameter Pin | LIST PRICE Each Finished | Number |
|--------|-------------------------|-------------------------------|-----------------------------|--------------------------------|--------|
| 452 | 1 | 4 | 3/16 | \$.54 | 452 |
| 453 | 1 1/4 | 4 1/2 | 13/64 | .58 | 453 |
| 454 | 1 1/2 | 5 | 7/32 | .60 | 454 |
| 455 | 1 3/4 | 5 1/2 | 15/64 | .62 | 455 |
| 456 | 2 | 6 | 1/4 | .66 | 456 |
| 457 | 2 1/4 | 6 1/2 | 17/64 | .70 | 457 |
| 458 | 2 1/2 | 7 | 9/32 | .72 | 458 |
| 459 | 2 3/4 | 7 1/2 | 19/64 | .78 | 459 |
| 460 | 3 | 8 | 5/16 | .84 | 460 |
| 461 | 3 1/4 | 8 1/2 | 21/64 | .90 | 461 |
| 462 | 3 1/2 | 9 | 11/32 | .96 | 462 |
| 463 | 3 3/4 | 9 1/2 | 23/64 | 1.02 | 463 |
| 464 | 4 | 10 | 3/8 | 1.08 | 464 |
| 466 | 5 | 12 | 7/16 | 1.44 | 466 |
| 468 | 6 | 14 | 1/2 | 1.96 | 468 |

Weights, page G.

✦ REGISTERED TRADE MARK

WILLIAMS' + "SUPERIOR" HOOK SPANNERS
(Carbon Steel)



For Taper Nose
Lathe Spindles

Made especially to service Face Plate Draw Nuts used on taper-nose spindles for new design lathes. Very efficient, also, for general work.

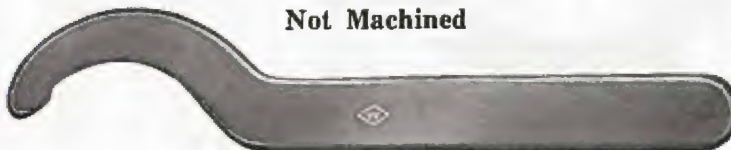
Supplied with bearing pads and hook machined; hardened, black enameled (baked).

| No. | For Circle; Diameter | Extreme Length | Thickness, Hook End | LIST Each |
|-----|-------------------------|-------------------|------------------------|--------------|
| 414 | * 7 3/8 | 20 | 5/8 | \$5.50 |
| 415 | * 9 1/4 | 23 1/4 | 11/16 | 8.00 |
| 416 | * 12 1/2 | 30 3/4 | 3/4 | 14.00 |

*Can be furnished to order for circle 1/8" larger.

FLAT HOOK SPANNERS
(Carbon Steel)

Not Machined

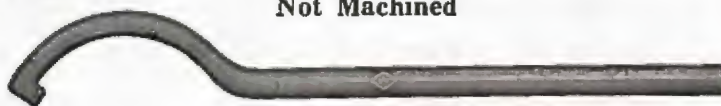


The diameter of circle which the unfinished forgings fit is given in second column of table, but wrenches will finish to sizes stated in third column.

| No. | Forgings for Circle; Diameter | Forgings will finish for Circles; Diameter | Extreme Length, Approx. | Thickness | LIST PRICE Each | No. |
|-----|-------------------------------------|--|-------------------------------|-----------|-----------------------|-----|
| 403 | 1 1/4 | 1 to 1 1/4 | 4 3/4 | 7/32 | \$.40 | 403 |
| 404 | 1 1/2 | 1 3/8 to 1 5/8 | 6 | 1/4 | .46 | 404 |
| 405 | 2 | 1 3/4 to 2 | 7 1/8 | 1/4 | .52 | 405 |
| 406 | 2 1/4 | 2 1/8 to 2 3/8 | 8 7/16 | 1/4 | .60 | 406 |
| 407 | 2 5/8 | 2 1/2 to 2 3/4 | 9 3/4 | 1/4 | .68 | 407 |
| 408 | 3 1/8 | 2 7/8 to 3 1/4 | 11 | 5/16 | .80 | 408 |
| 409 | 3 3/4 | 3 3/8 to 3 7/8 | 12 | 5/16 | .96 | 409 |
| 410 | 4 3/8 | 4 to 4 1/2 | 13 | 5/16 | 1.16 | 410 |
| 412 | 5 3/4 | 5 1/4 to 5 3/4 | 15 | 7/16 | 1.70 | 412 |

LIGHT HOOK SPANNERS
(Carbon Steel)

Not Machined



| No. | For Circle; Diameter | Extreme Length, Approx. | Hook | | | Diameter Handle | LIST PRICE Each | No. |
|-----|----------------------------|-------------------------------|--------|-------|-----------|--------------------|-----------------------|-----|
| | | | Length | Width | Thickness | | | |
| 491 | 1 3/16 | 6 1/2 | 1/16 | 3/8 | 7/32 | 3/8 | \$.30 | 491 |
| 493 | 1 3/4 | 7 1/2 | 1/8 | 3/8 | 7/32 | 3/8 | .34 | 493 |
| 494 | 2 1/8 | 8 | 1/8 | 3/8 | 7/32 | 3/8 | .36 | 494 |
| 495 | 2 1/2 | 8 1/4 | 1/8 | 3/8 | 7/32 | 3/8 | .40 | 495 |
| 496 | 2 3/4 | 8 1/2 | 1/8 | 3/8 | 7/32 | 3/8 | .44 | 496 |
| 497 | 3 | 8 3/4 | 1/8 | 3/8 | 7/32 | 3/8 | .48 | 497 |
| 498 | 3 1/2 | 9 | 1/8 | 3/8 | 7/32 | 3/8 | .52 | 498 |

†Length of handle can be varied if desired.

★ REGISTERED TRADE MARK

Weights, pages F and G.

10-42

WILLIAMS' +“SUPERIOR” ADJUSTABLE FACE SPANNERS
(Carbon Steel)



Drop-forged from a strong, tough grade of carefully selected steel, this is a desirable and dependable tool for service where Center to Center dimensions vary.

These Wrenches have pins milled, surfaces smooth, hardened, black enameled (baked on).

| No. | Extreme Capacity | Extreme Length, Approx. | Diameter of Pins | LIST PRICE Each Finished | No. |
|-----|------------------|-------------------------|------------------|--------------------------|-----|
| 482 | 2 | 6 3/8 | 3/16 | \$1.50 | 482 |
| 483 | 3 | 8 1/4 | 1/4 | 2.20 | 483 |
| 484 | 4 | 10 3/8 | 5/16 | 3.20 | 484 |

+“SUPERIOR” ADJUSTABLE HOOK SPANNERS
(Carbon Steel)



These Spanners offer an unusual combination of strength and ready adjustment; each tool provides for a wide range of sizes—see table. Drop-forged from a strong, tough grade of carefully selected steel, surfaces smoothed, black enameled (baked on); jaw hardened and tempered.

Sold individually, or in Set No. 400 which is especially serviceable on spindle bearings of lathes, milling machines and grinding machines. Also, for adjusting collars and slotted rings used on many types of automatic machines.



SET No. 400
LIST PRICE, Complete—\$7.25
In Leatherette Roll
1 Each, Nos. 471, 472, 474.

| No. | Capacity for Circles, Diameter | Extreme Length, Approx. | Thickness | | Depth Hook | LIST PRICE Finished | No. |
|-----|--------------------------------|-------------------------|-----------|-------|------------|---------------------|-----|
| | | | Handle | Hook | | | |
| 471 | 3/4 to 2 | 6 3/8 | 1/4 | 11/32 | 1/8 | \$1.75 | 471 |
| 472 | 1 1/4 to 3 | 8 1/8 | 9/32 | 13/32 | 5/32 | 2.00 | 472 |
| 474 | 2 to 4 3/4 | 11 3/8 | 5/16 | 15/32 | 3/16 | 2.75 | 474 |

Alloy Steel Adjustable Hook Spanners, page 42.

Weights, page G.

+ REGISTERED TRADE MARK

WILLIAMS' + "SUPERIOR" SOCKET WRENCHES
(Carbon Steel)



STRAIGHT PATTERN

With or Without Pin-Handle

Unhardened are broached and shot-blasted.

* Finished are broached, surface smooth, hardened and black enameled (baked on); face bright.

Whitworth Standard sizes, see page 127.

Special broaching to order in reasonable quantities.

(Continued on following page)

* Finished Wrenches with Pin-Handles will be supplied, unless otherwise specified.

| No. | HEXAGON OPENINGS | | | | | Diam. of Head | Extreme Length, Approx. | LIST PRICE | | | | No. |
|-------|--|---|--|---|---|---------------------|-------------------------------|---|---------------------------------|-------------------------------------|-----------------------------|-------|
| | Nomi- nal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGLR. Nut; Size Bolt | | | Unhardened With- out Pin- Han- dle | With Pin- Han- dle | With- out Pin- Han- dle | With Pin- Han- dle | |
| *961A | 5/16 | 1/8 | ..... | ..... | ..... | 1/2 | 4 1/4 | DISCONTINUED FOR "THE DURATION" | DISCONTINUED FOR "THE DURATION" | DISCONTINUED FOR "THE DURATION" | \$.80 | 961A* |
| *962D | 3/8 | ..... | 3/16 | ..... | ..... | 5/8 | 4 1/2 | | | | .88 | 962D* |
| *963A | 13/32 | 3/16 | ..... | ..... | ..... | 11/16 | 4 7/8 | | | | .98 | 963A* |
| *963D | 7/16 | ..... | 1/4 | 1/4 | 1/4 | 11/16 | 4 7/8 | | | | .98 | 963D* |
| *964A | 1/2 | 1/4 | 5/16 | 5/16 | ..... | 3/4 | 5 1/4 | | | | 1.04 | 964A* |
| *965D | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 7/8 | 5 3/4 | | | | 1.16 | 965D* |
| *965A | 19/32 | 5/16 | ..... | ..... | ..... | 7/8 | 5 3/4 | | | | 1.16 | 965A* |
| *966D | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 1 | 6 1/8 | | | | 1.26 | 966D* |
| *967A | 11/16 | 3/8 | ..... | ..... | ..... | 1 1/8 | 6 1/2 | | | | 1.42 | 967A* |
| *967D | 3/4 | ..... | 1/2 | 1/2 | 7/16 | 1 1/8 | 6 1/2 | | | | 1.42 | 967D* |
| *968A | 25/32 | 7/16 | ..... | ..... | ..... | 1 1/4 | 7 | | | | 1.54 | 968A* |
| *968D | 13/16 | ..... | 9/16 | ..... | 1/2 | 1 1/4 | 7 | | | | 1.54 | 968D* |
| *969A | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 1 3/8 | 7 3/8 | | | | 1.74 | 969A* |
| *970S | 15/16 | ..... | ..... | 5/8 | ..... | 1 1/2 | 7 7/8 | | | | 1.96 | 970S* |
| *970A | 31/32 | 9/16 | ..... | ..... | ..... | 1 1/2 | 7 7/8 | | | | 1.96 | 970A* |
| *970D | 1 | ..... | 3/4 | ..... | 5/8 | 1 1/2 | 7 7/8 | | | | 1.96 | 970D* |
| *971A | 1 1/16 | 5/8 | ..... | 3/4 | ..... | 1 5/8 | 8 1/4 | | | | 2.20 | 971A* |
| *971D | 1 1/8 | ..... | 7/8 | ..... | 3/4 | 1 5/8 | 8 1/4 | | | | 2.20 | 971D* |
| 973A | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 1 7/8 | 9 1/8 | | | | 3.00 | 973A |
| 973B | 1 5/16 | ..... | 1 | ..... | 7/8 | 1 7/8 | 9 1/8 | | | | 3.00 | 973B |
| 975A | 1 7/16 | 7/8 | ..... | 1 | ..... | 2 1/8 | 10 | | | | 3.70 | 975A |
| 975D | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 2 1/8 | 10 | | | | 3.70 | 975D |
| 976A | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 2 3/8 | 10 3/8 | | | | 4.24 | 976A |
| 976B | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 2 3/8 | 10 3/8 | | | | 4.24 | 976B |
| 977A | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 2 5/8 | 10 7/8 | | | | 4.80 | 977A |
| 977B | 1 7/8 | ..... | ..... | 1 1/4 | ..... | 2 5/8 | 10 7/8 | | | | 4.80 | 977B |
| 978A | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 2 7/8 | 11 3/8 | | | | 5.70 | 978A |
| 979A | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 3 | 11 7/8 | | | | 7.30 | 979A |
| 979B | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 3 | 11 7/8 | | | | 7.30 | 979B |
| 980A | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 3 5/16 | 12 1/2 | | | | 9.70 | 980A |

*Temporarily furnished with loose parkerized pin handles. All other sizes assembled.

✦ REGISTERED TRADE MARK

Weights, page H.

3-43

WILLIAMS' + "SUPERIOR" SOCKET WRENCHES
(Carbon Steel)
STRAIGHT PATTERN

With or Without Pin-Handle

(Continued from previous page)

Hexagon end of shank is designed for use in combination with another wrench or with Pin-Handle.

Wrenches of shorter or longer lengths than stated in table can be furnished to order in quantities.

* Finished Wrenches with Pin-Handles will be supplied, unless otherwise specified.



| No. | SQUARE OPENINGS | | | | | Diam. of Head | Ex- treme Length. Approx. | LIST PRICE | | | | No. |
|-------|--------------------|---|--|------------------------------|--|---------------------|------------------------------------|-------------------------------------|---------------------------------|-------------------------------------|-----------------------------|--------|
| | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Cap Screw; Diam. Screw | For Set Screw; Size | Amer. Std. REGULAR Nut; Size Bolt | | | Unhardened | | Finished | | |
| | | | | | | | | With- out Pin- Han- dle | With Pin- Han- dle | With- out Pin- Han- dle | With Pin- Han- dle | |
| *960H | 1/8 | ..... | ..... | 1/8 | ..... | 5/16 | 3 3/4 | DISCONTINUED FOR "THE DURATION" | DISCONTINUED FOR "THE DURATION" | DISCONTINUED FOR "THE DURATION" | \$.70 | 960H* |
| *961H | 3/16 | ..... | ..... | 3/16 | ..... | 1/2 | 4 1/4 | | | | .80 | 961H* |
| *961J | 1/4 | ..... | ..... | 1/4 | ..... | 1/2 | 4 1/4 | | | | .80 | 961J * |
| *962H | 5/16 | ..... | ..... | 5/16 | ..... | 5/8 | 4 1/2 | | | | .88 | 962H* |
| *963H | 3/8 | ..... | 1/4 | 3/8 | ..... | 11/16 | 4 7/8 | | | | .98 | 963H* |
| *965H | 7/16 | ..... | 5/16 | 7/16 | 1/4 | 7/8 | 5 3/4 | | | | 1.16 | 965H* |
| *966H | 1/2 | 1/4 | 3/8 | 1/2 | ..... | 1 | 6 1/8 | | | | 1.26 | 966H* |
| *967H | 9/16 | ..... | 7/16 | 9/16 | 5/16 | 1 1/8 | 6 1/2 | | | | 1.42 | 967H* |
| *968H | 5/8 | ..... | 1/2 | 5/8 | 3/8 | 1 1/4 | 7 | | | | 1.54 | 968H* |
| *968P | 11/16 | 3/8 | 9/16 | ..... | ..... | 1 1/4 | 7 | | | | 1.54 | 968P * |
| *969H | 3/4 | ..... | 5/8 | 3/4 | 7/16 | 1 3/8 | 7 3/8 | | | | 1.74 | 969H* |
| *970H | 13/16 | ..... | ..... | ..... | 1/2 | 1 1/2 | 7 7/8 | | | | 1.96 | 970H* |
| *971H | 7/8 | 1/2 | 3/4 | 7/8 | 9/16 | 1 5/8 | 8 1/4 | | | | 2.20 | 971H* |
| 973H | 1 | ..... | ..... | 1 | 5/8 | 1 7/8 | 9 1/8 | | | | 3.00 | 973H |
| 974H | 1 1/8 | ..... | 7/8 | 1 1/8 | 3/4 | 2 | 9 1/2 | | | | 3.40 | 974H |
| 976H | 1 1/4 | 3/4 | 1 | 1 1/4 | ..... | 2 3/8 | 10 3/8 | | | | 4.24 | 976H |
| 977X | 1 7/16 | 7/8 | ..... | ..... | ..... | 2 5/8 | 10 7/8 | | | | 4.80 | 977X |
| 977P | 1 1/2 | ..... | 1 1/4 | 1 1/2 | 1 | 2 5/8 | 10 7/8 | | | | 4.80 | 977P |

* Temporarily furnished with loose parkerized pin handles. All other sizes assembled.

Weights, page H.

+ REGISTERED TRADE MARK

WILLIAMS' "SUPERIOR" OFFSET SOCKET WRENCHES
(Carbon Steel)



Unhardened are broached and shot-blasted.

Finished are broached, surface smooth, hardened and black enameled, face bright.

Whitworth Standard sizes, see page 125.

(Continued on following page)

| No. | HEXAGON OPENINGS | | | | | Diam. of Head | Extreme Length, Approx. | Handle Offset in Clear from Face of Wrench | LIST PRICE | | No. |
|------|------------------------------|--|-----------------------------|--|-----------------------------------|---------------|-------------------------|--|------------|----------|------|
| | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Cap Screw; Diam. | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | | | Unhardened | Finished | |
| 261A | 5/16 | 1/8 | ..... | ..... | ..... | 1/2 | 3 3/8 | 13/16 | \$.40 | \$.60 | 261A |
| 262D | 3/8 | ..... | 3/16 | ..... | ..... | 5/8 | 3 7/8 | 1 | .44 | .66 | 262D |
| 263A | 13/32 | 3/16 | ..... | ..... | ..... | 11/16 | 4 5/16 | 1 1/16 | .48 | .72 | 263A |
| 263D | 7/16 | ..... | 1/4 | 1/4 | 1/4 | 11/16 | 4 5/16 | 1 1/16 | .48 | .72 | 263D |
| 264A | 1/2 | 1/4 | 5/16 | 5/16 | ..... | 3/4 | 5 1/8 | 1 1/4 | .52 | .78 | 264A |
| 265D | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 7/8 | 5 7/8 | 1 7/16 | .58 | .88 | 265D |
| 265A | 19/32 | 5/16 | ..... | ..... | ..... | 7/8 | 5 7/8 | 1 7/16 | .58 | .88 | 265A |
| 266D | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 1 | 6 1/4 | 1 9/16 | .64 | .96 | 266D |
| 267A | 11/16 | 3/8 | ..... | ..... | ..... | 1 1/8 | 6 3/4 | 1 5/8 | .72 | 1.08 | 267A |
| 267D | 3/4 | ..... | 1/2 | 1/2 | 7/16 | 1 1/8 | 6 3/4 | 1 5/8 | .72 | 1.08 | 267D |
| 268A | 25/32 | 7/16 | ..... | ..... | ..... | 1 1/4 | 7 1/2 | 1 13/16 | .80 | 1.20 | 268A |
| 268D | 13/16 | ..... | 9/16 | ..... | 1/2 | 1 1/4 | 7 1/2 | 1 13/16 | .80 | 1.20 | 268D |
| 269A | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 1 3/8 | 8 3/8 | 2 | .92 | 1.38 | 269A |
| 270S | 15/16 | ..... | ..... | 5/8 | ..... | 1 1/2 | 9 1/8 | 2 3/16 | 1.04 | 1.56 | 270S |
| 270A | 31/32 | 9/16 | ..... | ..... | ..... | 1 1/2 | 9 1/8 | 2 3/16 | 1.04 | 1.56 | 270A |
| 270D | 1 | ..... | 3/4 | ..... | 5/8 | 1 1/2 | 9 1/8 | 2 3/16 | 1.04 | 1.56 | 270D |
| 271A | 1 1/16 | 5/8 | ..... | 3/4 | ..... | 1 5/8 | 10 | 2 3/8 | 1.20 | 1.80 | 271A |
| 271D | 1 1/8 | ..... | 7/8 | ..... | 3/4 | 1 5/8 | 10 | 2 3/8 | 1.20 | 1.80 | 271D |
| 273A | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 1 7/8 | 11 5/8 | 2 3/4 | 1.60 | 2.40 | 273A |
| 273B | 1 5/16 | ..... | 1 | ..... | 7/8 | 1 7/8 | 11 5/8 | 2 3/4 | 1.60 | 2.40 | 273B |
| 275A | 1 7/16 | 7/8 | ..... | 1 | ..... | 2 1/8 | 13 1/4 | 3 1/8 | 2.00 | 3.00 | 275A |
| 275D | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 2 1/8 | 13 1/4 | 3 1/8 | 2.00 | 3.00 | 275D |
| 276A | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 2 3/8 | 14 7/8 | 3 1/2 | 2.30 | 3.44 | 276A |
| 276B | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 2 3/8 | 14 7/8 | 3 1/2 | 2.30 | 3.44 | 276B |
| 277A | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 2 5/8 | 16 1/2 | 3 7/8 | 2.60 | 3.90 | 277A |
| 277B | 1 7/8 | ..... | ..... | 1 1/4 | ..... | 2 5/8 | 16 1/2 | 3 7/8 | 2.60 | 3.90 | 277B |
| 278A | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 2 7/8 | 18 1/4 | 4 3/8 | 3.20 | 4.80 | 278A |
| 279A | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 3 | 20 | 4 7/8 | 4.20 | 6.30 | 279A |
| 279B | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 3 | 20 | 4 7/8 | 4.20 | 6.30 | 279B |
| 280A | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 3 5/16 | 21 3/4 | 5 3/8 | 5.60 | 8.40 | 280A |

Weights, page F.

★ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 43)

WILLIAMS' + "SUPERIOR" OFFSET SOCKET WRENCHES
(Carbon Steel)



(Continued from previous page)

Special broaching to order in reasonable quantities.

These Offset Socket Wrenches, of shorter or longer lengths than stated in table, can be furnished to order in quantities.

| No. | SQUARE OPENINGS | | | | | Diam. of Head | Extreme Length, Approx. | Handle Offset in Clear from Face of Wrench | LIST PRICE | | No. |
|------|--------------------|---|--|------------------------------|---|---------------------|-------------------------------|---|-----------------|---------------|------|
| | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Cap Screw; Diam. Screw | For Set Screw; Size | Amer. Std. REGULAR Nut; Size Bolt | | | | Unhard- ened | Fin- ished | |
| 260H | 1/8 | ..... | ..... | 1/8 | ..... | 5/16 | 2 3/4 | 9/16 | \$.36 | \$.54 | 260H |
| 261H | 3/16 | ..... | ..... | 3/16 | ..... | 1/2 | 3 3/8 | 13/16 | .40 | .60 | 261H |
| 261J | 1/4 | ..... | ..... | 1/4 | ..... | 1/2 | 3 3/8 | 13/16 | .40 | .60 | 261J |
| 262H | 5/16 | ..... | ..... | 5/16 | ..... | 5/8 | 3 7/8 | 1 | .44 | .66 | 262H |
| 263H | 3/8 | ..... | 1/4 | 3/8 | ..... | 11/16 | 4 5/16 | 1 1/16 | .48 | .72 | 263H |
| 265H | 7/16 | ..... | 5/16 | 7/16 | 1/4 | 7/8 | 5 7/8 | 1 7/16 | .58 | .88 | 265H |
| 266H | 1/2 | 1/4 | 3/8 | 1/2 | ..... | 1 | 6 1/4 | 1 9/16 | .64 | .96 | 266H |
| 267H | 9/16 | ..... | 7/16 | 9/16 | 5/16 | 1 1/8 | 6 3/4 | 1 5/8 | .72 | 1.08 | 267H |
| 268H | 5/8 | ..... | 1/2 | 5/8 | 3/8 | 1 1/4 | 7 1/2 | 1 13/16 | .80 | 1.20 | 268H |
| 268P | 11/16 | 3/8 | 9/16 | ..... | ..... | 1 1/4 | 7 1/2 | 1 13/16 | .80 | 1.20 | 268P |
| 269H | 3/4 | ..... | 5/8 | 3/4 | 7/16 | 1 3/8 | 8 3/8 | 2 | .92 | 1.38 | 269H |
| 270H | 13/16 | ..... | ..... | ..... | 1/2 | 1 1/2 | 9 1/8 | 2 3/16 | 1.04 | 1.56 | 270H |
| 271H | 7/8 | 1/2 | 3/4 | 7/8 | 9/16 | 1 5/8 | 10 | 2 3/8 | 1.20 | 1.80 | 271H |
| 273H | 1 | ..... | ..... | 1 | 5/8 | 1 7/8 | 11 5/8 | 2 3/4 | 1.60 | 2.40 | 273H |
| 274H | 1 1/8 | ..... | 7/8 | 1 1/8 | 3/4 | 2 | 12 3/8 | 2 7/8 | 1.80 | 2.70 | 274H |
| 276H | 1 1/4 | 3/4 | 1 | 1 1/4 | ..... | 2 3/8 | 14 7/8 | 3 1/2 | 2.30 | 3.44 | 276H |
| 277X | 1 7/16 | 7/8 | ..... | ..... | ..... | 2 5/8 | 16 1/2 | 3 7/8 | 2.80 | 3.90 | 277X |
| 277P | 1 1/2 | ..... | 1 1/4 | 1 1/2 | 1 | 2 5/8 | 16 1/2 | 3 7/8 | 2.80 | 3.90 | 277P |

Weights, page F.

✦ REGISTERED TRADE MARK

★ "SUPERIOR" DROP-FORGED WRENCH SETS
(Carbon Steel)



No. 25



No. 4



No. 2-S



No. 5-S

Finished Wrenches are polished, surface smoothed, sizes stamped on heads, hardened and black enameled (blacked only) — heads bright.

SET No. 25

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | LIST PRICE Each, Finished | No. |
|------|---------------------|--|--|--|---|-------------------------------|------------------------------------|------|
| 723 | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 4 1/4 | \$.42 | 723 |
| 25 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | ..... | 5 1/2 | .50 | 25 |
| 27C | 9/16 & 11/16 | 3/8 | 3/8 | 3/8 | 5/16 | 6 1/2 | .62 | 27C |
| 28S | 5/8 & 25/32 | 7/16 | 7/16 | 7/16 | 3/8 | 7 | .74 | 28S |
| 731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 8 3/4 | .90 | 731A |
| 33C | 15/16 & 1 | ..... | 3/4 | 5/8 | 5/8 | 9 1/2 | 1.10 | 33C |

| | | | |
|------------|---|--------|-----------|
| No. 25 SET | LIST PRICE Complete, In Khaki Roll In Cardboard Box | \$5.28 | Set 25 |
| | For similar Alloy Steel Wrench Set No. 1025, see page 33. | 4.28 | |

EXTRA CAPACITY SET, "BIG SIX," No. 4

| | | | | | | | | |
|-----|---------------|-------------|------------|------------|------------|--------|--------|-----|
| 725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 | \$.50 | 725 |
| 27C | 9/16 & 11/16 | 3/8 | 3/8 | 3/8 | 5/16 | 6 1/2 | .62 | 27C |
| 28 | 19/32 & 25/32 | 5/16 & 7/16 | ..... | ..... | ..... | 7 | .74 | 28 |
| 729 | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 7 | .74 | 729 |
| 34 | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 10 3/4 | 1.36 | 34 |
| 736 | 1 & 1 1/4 | 3/4 | 3/4 | 7/8 | 5/8 | 12 | 1.92 | 736 |

| | | | |
|-----------|--|--------|----------|
| No. 4 SET | LIST PRICE Complete, In Khaki Roll In Cardboard Box | \$6.88 | Set 4 |
| | | 5.88 | |

LIGHT SERVICE SET No. 2-S

| | | | | | | | | |
|-----|----------------|-----------|------------|------------|-------------|--------|--------|-----|
| 77S | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 7 1/4 | \$.68 | 77S |
| 79S | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 8 1/4 | .86 | 79S |
| 81A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 9 1/4 | 1.10 | 81A |
| 83A | 15/16 & 1 | ..... | 3/4 | 5/8 | 5/8 | 10 3/8 | 1.40 | 83A |
| 85C | 1 1/16 & 1 1/4 | 5/8 & 3/4 | ..... | 3/4 & 7/8 | ..... | 12 | 2.00 | 85C |

| | | | |
|-------------|--|--------|------------|
| No. 2-S SET | LIST PRICE Complete, In Khaki Roll In Cardboard Box | \$7.04 | Set 2-S |
| | | 6.04 | |

SET No. 5-S

| | | | | | | | | |
|------|----------------|-----------|------------|------------|-------------|-------|--------|------|
| 725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 | \$.50 | 725 |
| 727 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 | .62 | 727 |
| 731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 8 3/4 | .90 | 731A |
| 33C | 15/16 & 1 | ..... | 3/4 | 5/8 | 5/8 | 9 1/2 | 1.10 | 33C |
| 37 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | ..... | 3/4 & 7/8 | ..... | 12 | 1.92 | 37 |

| | | | |
|-------------|--|--------|------------|
| No. 5-S SET | LIST PRICE Complete, In Khaki Roll In Cardboard Box | \$6.04 | Set 5-S |
| | | 5.04 | |

★ REGISTERED TRADE MARK

(Continued on following page)

10-42

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

+ "SUPERIOR" DROP-FORGED WRENCH SETS (Carbon Steel)

(Continued from previous page)



No. 1



No. 3



No. 6



No. 9



No. 10

"LIGHT SERVICE" SET No. 1

| No. | Nominal Openings | For Manu- facturers' Std. Nuts; Size Bolts | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Thick- End Nuts | Thick- End Screws | LIST PRICE Each, Finished | No. |
|---|---------------------|---|---|---|---|--------------------|-------------------------|------------------------------------|----------|
| 75 | 13/32 & 1/2 | 3/16 & 1/4 | 3/16 & 1/4 | 5/16 | 5/16 | 6 1/4 | 1 1/2 | .44 | 75 |
| 77 | 1/2 & 5/8 | 1/4 & 5/16 | 1/4 | 5/16 & 7/16 | 5/16 & 7/16 | 7 1/4 | 1 3/4 | .62 | 77 |
| 79 | 5/8 & 11/16 | 5/16 & 3/8 | 3/8 3/8 | 7/16 | 7/16 | 8 1/4 | 2 | .79 | 79 |
| 81 | 11/16 & 27/32 | 3/8 & 7/16 | 3/8 | | | 9 1/4 | 2 1/8 | 1.10 | 81 |
| 83 | 27/32 & 15/16 | 7/16 & 1/2 | | | 5/8 | 10 3/8 | 2 1/2 | 1.40 | 83 |
| No. 1 SET LIST PRICE Complete, In Khaki Roll In Cardboard Box | | | | | | | | \$5.38 4.58 | Set 1 |

"LIGHT SERVICE" SET No. 3

| | | | | | | | | | | |
|---|-------|---|-------|-------|------------|------------|--------|--------|--------|-----|
| 75B | 3/8 | & | 7/16 | ..... | 3/16 & 1/4 | | 1/4 | \$.54 | 75B | |
| 77B | 1/2 | & | 9/16 | ..... | 5/16 & 3/8 | | 7 1/4 | .68 | 77B | |
| 79 | 5/8 | & | 11/16 | ..... | 7/16 | 5/16 & 3/8 | 8 1/4 | .86 | 79 | |
| 81B | 3/4 | & | 13/16 | ..... | 1/2 & 9/16 | 1/2 | 9 1/4 | 1.10 | 81B | |
| 83B | 7/8 | & | 1 | ..... | 5/8 & 3/4 | 9/16 | 10 3/8 | 1.40 | 83B | |
| 85B | 1 1/8 | & | 1 1/4 | ..... | 7/8 | 7/8 | 12 | 2.00 | 85B | |
| No. 3 SET LIST PRICE Complete, In Khaki Roll In Cardboard Box | | | | | | | | | \$7.58 | Set |
| | | | | | | | | | 6.58 | 3 |

"LIGHT SERVICE" SET No. 6

| | | | | | | | | | | | |
|--|-----|---|-----|-------|-------|-------------|-------------|--------|------|--------|-----|
| 75A | 3/8 | & | 1/2 | ..... | 1/4 | 3/16 & 5/16 | 5/16 | 6 1/4 | 1/4 | \$.54 | 75A |
| 77 | 1/2 | & | 5/8 | ..... | ..... | 5/16 & 7/16 | 5/16 & 7/16 | 7 1/4 | 9/32 | .68 | 77 |
| 79C | 5/8 | & | 3/4 | ..... | ..... | 7/16 & 1/2 | 7/16 & 1/2 | 8 1/4 | 5/16 | .86 | 79C |
| 81A | 3/4 | & | 7/8 | ..... | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 9 1/4 | 3/8 | 1.10 | 81A |
| 83B | 7/8 | & | 1 | ..... | 1/2 | 5/8 & 3/4 | 9/16 | 10 3/8 | 7/16 | 1.40 | 83B |
| No. 6 SET LIST PRICE Complete, In Khaki Roll | | | | | | | | | | \$5.38 | Set |
| In Cardboard Box | | | | | | | | | | 4.58 | 6 |

"DUPLEX" SET, No. 9

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | LIST PRICE Each, Finished | No. |
|--|---------------------|---|---|---|--|-------------------------------|------------------------------------|------|
| 725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 | \$.50 | 725 |
| 25 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | | 5 1/2 | .50 | 25 |
| 27C | 9/16 & 11/16 | 3/8 | 3/8 | 3/8 | 5/16 | 6 1/2 | .62 | 27C |
| 28S | 5/8 & 25/32 | 7/16 | 7/16 | 7/16 | 3/8 | 7 | .74 | 28S |
| 731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 8 3/4 | .90 | 731A |
| 34 | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 10 3/4 | 1.36 | 34 |
| 736 | 1 & 1 1/4 | 3/4 | 3/4 | 7/8 | 5/8 | 12 | 1.92 | 736 |
| No. 9 SET LIST PRICE Complete, In Khaki Roll | | | | | | | \$7.79 | Set |
| In Cardboard Box | | | | | | | 6.54 | 9 |

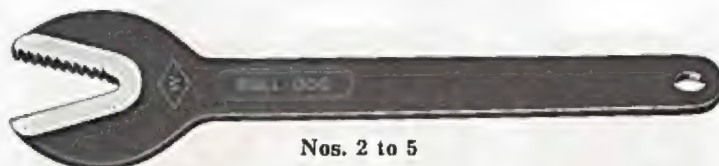
EXTRA CAPACITY SET, "BIG TEN," No. 10

| | | | | | | | | |
|------|-----------------|-------------|------------|------------|------------|--------|------|------|
| 721 | 5/16 & 3/8 | 1/8 | 1/8 & 3/16 | | | 4 | .34 | 721 |
| 23 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | | | 4 5/8 | .42 | 23 |
| 725A | 7/16 & 9/16 | | 1/4 & 3/8 | 1/4 & 5/16 | 1/4 & 5/16 | 5 | .50 | 725A |
| 27 | 19/32 & 11/16 | 5/16 & 3/8 | | | | 6 1/2 | .62 | 27 |
| 729 | 5/8 & 3/4 | | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 7 | .74 | 729 |
| 731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | 8 3/4 | .90 | 731B |
| 32 | 25/32 & 31/32 | 7/16 & 9/16 | | | | 9 1/2 | 1.10 | 32 |
| 33C | 15/16 & 1 | | 3/4 | 5/8 | 5/8 | 9 1/2 | 1.10 | 33C |
| 737 | 1 1/8 & 1 1/4 | 3/4 | 7/8 | 7/8 | 3/4 | 12 | 1.92 | 737 |
| 38 | 1 1/16 & 1 7/16 | 5/8 & 7/8 | | 3/4 & 1 | | 13 1/2 | 2.80 | 38 |

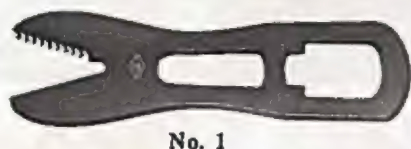
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|------------------|-----------|
| No. 10 SET LIST PRICE Complete, In Khaki Roll In Cardboard Box | | | | | | | | \$12.19 10.44 | Set 10 |
|--|--|--|--|--|--|--|--|------------------|-----------|

+ REGISTERED TRADE MARK

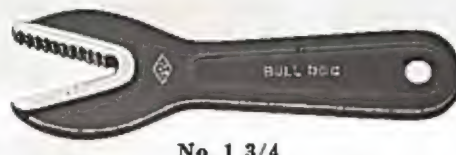
WILLIAMS' "BULL DOG" WRENCHES



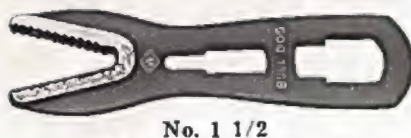
Nos. 2 to 5



No. 1



No. 1 3/4



No. 1 1/2



Twin

"ALWAYS READY" WRENCHES



Designed for all-around service, these wrenches will grip round, square, hexagon or any shape that will fit between their tough jaws.

Drop-forged from a specially fine grade of steel and carefully tempered in oil, these wrenches are practically indestructible.

The handles of "Bull Dog" Nos. 2 and 2 1/2 are concave. "Bull Dog" No. 1 packed 12 in a paper box—all others 6 to a box.

"BULL DOG" WRENCHES

| No. | Capacity | | Extreme Length | Weight per Doz., Lbs. | LIST PRICE, Each | No. |
|-------|--------------|----------------|----------------|-----------------------|------------------|-------|
| | Pipe | Rounds | | | | |
| 1 | 1/8 to 3/8 | 1/4 to 3/4 | 5 1/2 | 3. | \$.45 | 1 |
| 1 1/2 | 1/8 to 1/2 | 3/8 to 7/8 | 5 1/2 | 3.5 | .75 | 1 1/2 |
| 1 3/4 | 1/8 to 3/4 | 3/8 to 1 | 7 | 7.5 | 1.10 | 1 3/4 |
| 2 | 1/4 to 3/4 | 1/2 to 1 | 9 | 9. | 1.20 | 2 |
| 2 1/2 | 3/8 to 1 | 5/8 to 1 1/4 | 12 1/2 | 16.5 | 1.85 | 2 1/2 |
| 3 | 1/2 to 1 1/4 | 3/4 to 1 1/2 | 16 | 38. | 2.80 | 3 |
| 3 1/2 | 1/2 to 1 1/2 | 3/4 to 1 3/4 | 18 3/4 | 48. | 3.70 | 3 1/2 |
| 4 | 3/4 to 2 | 1 to 2 1/4 | 22 | 97. | 5.60 | 4 |
| 4 1/2 | 1 to 2 1/2 | 1 1/4 to 2 3/4 | 24 | 128. | 8.50 | 4 1/2 |
| 5 | 2 to 3 | 2 1/4 to 3 1/2 | 27 | 158. | 11.00 | 5 |
| Twin | 1/8 to 3/4 | 5/16 to 1 | 10 | 13.5 | 1.90 | Twin |

"ALWAYS READY" WRENCHES

| | | | | | | |
|---|--------------|--------------|--------|-----|--------|---|
| 1 | 1/8 to 3/8 | 1/4 to 3/4 | 5 | 4.4 | \$1.25 | 1 |
| 2 | 1/8 to 1 | 1/4 to 1 1/4 | 7 | 9. | 1.55 | 2 |
| 3 | 1/2 to 1 1/2 | 3/4 to 2 | 11 1/2 | 32. | 3.50 | 3 |

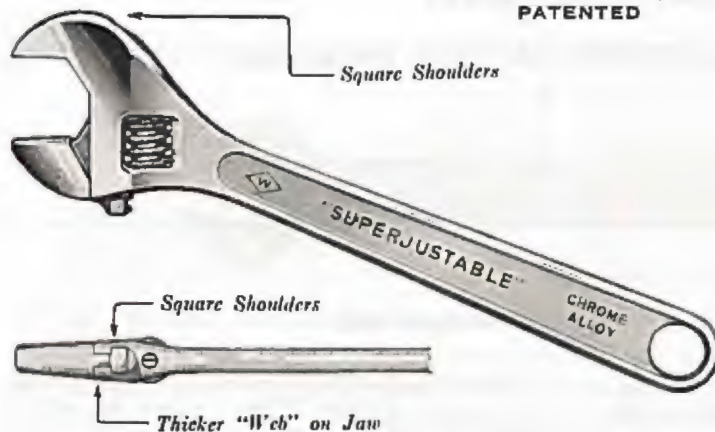
10-42

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERJUSTABLE" WRENCHES

Chrome-Alloy
PATENTED



REPLACEMENT PARTS ASSORTMENT



Packed in compartment cardboard box containing 88 of the following parts:—

| Size | Jaws | Knurls | Pins | Springs |
|------|------|--------|------|---------|
| 4" | 4 | 4 | 4 | 4 |
| 6" | 6 | 6 | 6 | 6 |
| 8" | 6 | 6 | 6 | 6 |
| 10" | 4 | 4 | 4 | 4 |
| 12" | 2 | 2 | 2 | 2 |

LIST PRICE
"SUPERJUSTABLE" Assortment—\$20.45
ADJUSTABLE Assortment—\$17.20

Williams' "Superjustable" Wrenches with thin, tapered jaws, are drop-forged from the finest grade of Chrome-Alloy Steel obtainable for the purpose. "Superjustables" are thinner and lighter, yet stronger and tougher than conventional carbon steel adjustable wrenches of similar capacity. They are second to no other alloy steel adjustable wrenches in appearance, strength and durability.

Square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. It eliminates entirely the wedging and spreading action, inevitable in wrenches having a cylindrical bearing at this point. The shoulders also permit a thicker "web" on the jaw, for added strength, without increasing the thickness of the wrench head.

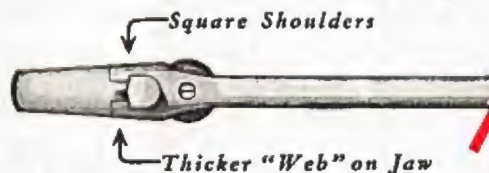
All parts are carefully machined to extremely close limits, assuring the accurate fit essential in wrenches of this class. Heat-treatment in recording electric furnaces insures uniformity of product and tough, dependable strength.

Finished in chrome-plate over nickel, with highly polished head; the handle is in "satin" finish. Packed, individually, in cardboard box.

| Size, Inch | List Price | | Capacity | Thickness Head | | Net Wgt., Each | | Extra Parts—List Price, Each | | | | Size, Inch |
|-----------------------------|---------------|-------------------|----------|----------------|---------|-------------------|-------|------------------------------|--------|--------|--------|---------------|
| | Fin- ished | Semi- finished | | Tip of Jaws | Extreme | Lbs. | Oz. | Jaw | Knurl | Pin | Spring | |
| "SUPERJUSTABLE"—Alloy Steel | | | | | | | | | | | | |
| 4 | \$1.30 | ..... | 1/2 | 9/64 | 5/16 | 1-1/2 | | \$.44 | \$.18 | \$.08 | \$.08 | 4 |
| 6 | 1.30 | ..... | 3/4 | 7/32 | 3/8 | 3-3/4 | | .44 | .18 | .08 | .08 | 6 |
| 8 | 1.60 | ..... | 15/16 | 17/64 | 1/2 | 7-1/2 | | .66 | .21 | .08 | .08 | 8 |
| 10 | 2.05 | ..... | 1- 1/8 | 23/64 | 19/32 | 12-1/2 | | .74 | .24 | .08 | .08 | 10 |
| 12 | 2.95 | ..... | 1- 5/16 | 15/32 | 23/32 | 1 | 6-1/2 | 1.08 | .38 | .15 | .08 | 12 |
| 15 | 4.45 | ..... | 1- 3/4 | 19/32 | 31/32 | 3 | 3-1/2 | 1.60 | .62 | .15 | .08 | 15 |
| † 18 | 7.35 | ..... | 2- 1/16 | 23/32 | 1- 3/16 | 6 | 0 | 2.20 | 1.00 | .15 | .08 | † 18 |

WILLIAMS' ADJUSTABLE WRENCHES

Improved Carbon Steel



These are positively the strongest Carbon Steel Wrenches of their type now made. Their consid-

erably greater strength is due to improved design and materials—no increase in size.

Drop-forged from a specially strong, tough steel and accurately heat-treated in electric furnaces for uniform, dependable strength.

Finished in natural polished steel; Semi-finished are steam-rit-blasted, heads bright.

Packed, individually, in cardboard box.

| Size, Inch | List Price | | Capacity | Thickness Head | | Net Wt., Each | | Extra Parts—List Price, Each | | | | Size, Inch |
|-------------------------|---------------|-------------------|----------|----------------|---------|------------------|-----|------------------------------|--------|--------|--------|---------------|
| | Fin- ished | Semi- finished | | Tip of Jaws | Extreme | Lbs. | Oz. | Jaw | Knurl | Pin | Spring | |
| ADJUSTABLE—Carbon Steel | | | | | | | | | | | | |
| 4 | \$1.05 | \$.92 | 1/2 | 9/64 | 5/16 | 2 | | \$.35 | \$.15 | \$.08 | \$.08 | 4 |
| 6 | 1.05 | .92 | 3/4 | 19/64 | 29/64 | 5 | | .35 | .15 | .08 | .08 | 6 |
| 8 | 1.30 | 1.15 | 15/16 | 3/8 | 17/32 | 10 | | .44 | .18 | .08 | .08 | 8 |
| 10 | 1.60 | 1.40 | 1- 1/8 | 33/64 | 23/32 | 17 | | .50 | .21 | .08 | .08 | 10 |
| 12 | 2.45 | 2.15 | 1- 5/16 | 39/64 | 27/32 | 1 | 15 | .88 | .35 | .15 | .08 | 12 |
| † 15 | 3.30 | 2.95 | 1-11/16 | 27/32 | 1- 1/8 | 4 | 3 | 1.24 | .60 | .15 | .08 | † 15 |
| † 18 | 4.80 | 3.80 | 2- 1/16 | 15/16 | 1- 5/16 | 6 | 14 | 1.68 | .80 | .15 | .08 | † 18 |

† "Diamond" Brand.

✦ REGISTERED TRADE MARK

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

WILLIAMS' "SUPERRENCHES"
(Chrome-Molybdenum)

ENGINEERS' PATTERN — 15° Angle, Double Head



Strength and Toughness Without Bulk

These "Superrenches" are particularly serviceable in cramped quarters where clearance is limited. The jaws are long, thin and pointed but the strength is the greatest ever put in a thin wrench. Chrome-Molybdenum steel makes "Superrenches" absolutely dependable — no matter how hard the work.

The 15° angle of the opening is the most efficient that can be devised. With it a hex nut can be rotated completely where the swing of the wrench is limited to only 30°.

Unfinished—Baked light gray enamel.

Finished—Chrome-plated; heads buffed bright. Whitworth and Metric sizes, see page 127.

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Ex-treme Length | Thick-ness Heads | LIST PRICE | | No. |
|--------|------------------|--|--|--|---|-----------------|------------------|---------------------------------|-----------|-------|
| | | | | | | | | Unfin-ished | Fin-ished | |
| 1021S | 1/4 & 5/16 | 1/8 | 1/8 | | | 4 1/2 | 3/16 | DISCONTINUED FOR "THE DURATION" | \$.58 | 1021S |
| 1721 | 5/16 & 3/8 | 1/8 | 1/8 & 3/16 | | | | | | | 1721 |
| 1021 | 5/16 & 13/32 | 1/8 & 3/16 | 1/8 | | | | | | | 1021 |
| 1723 | 3/8 & 7/16 | | 3/16 & 1/4 | 1/4 | 1/4 | 4 7/8 | 13/64 | | .58 | 1723 |
| 1023 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | 5/16 | | 5 1/4 | 7/32 | | .69 | 1023 |
| 1723A | 3/8 & 1/2 | 1/4 | 3/16 & 5/16 | 5/16 | 5/16 | | | | | 1723A |
| 1725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 5/8 | 15/64 | | .82 | 1725 |
| 1725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 6 1/8 | 1/4 | | .82 | 1725B |
| 1025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | | | | | | 1025 |
| 1727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 5/8 | 17/64 | | 1.00 | 1727 |
| 1027 | 19/32 & 11/16 | 5/16 & 3/8 | | | | 7 1/4 | 9/32 | | 1.00 | 1027 |
| 1027C | 9/16 & 11/16 | 3/8 | 3/8 | 3/8 | 5/16 | | | | | 1027C |
| 1028S | 5/8 & 25/32 | 7/16 | 7/16 | 7/16 | 3/8 | 7 7/8 | 19/64 | | 1.24 | 1028S |
| 1729 | 5/8 & 3/4 | | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | | | | | 1729 |
| 1029 | 11/16 & 25/32 | 3/8 & 7/16 | | | | 8 1/2 | 5/16 | | 1.24 | 1029 |
| 1731 | 3/4 & 13/16 | | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 9 1/4 | 11/32 | | 1.65 | 1731 |
| *1731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | | | | | 1731A |
| 1031 | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | | | | | 1031 |
| 1731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | | | | | 1731B |
| 1033A | 7/8 & 15/16 | 1/2 | 5/8 | 9/16 & 5/8 | 9/16 | 10 | 3/8 | | 1.65 | 1033A |
| 1033 | 7/8 & 31/32 | 1/2 & 9/16 | 5/8 | 9/16 | 9/16 | | | | | 1033 |
| 1733 | 7/8 & 1 | 1/2 | 5/8 & 3/4 | 9/16 & 11/16 | 9/16 & 5/8 | 10 7/8 | 13/32 | | 2.25 | 1733 |
| 1033C | 15/16 & 1 | | 3/4 | 5/8 & 11/16 | 5/8 | | | | | 1033C |
| 1034A | 15/16 & 11/16 | 5/8 | | 5/8 & 3/4 | 9/16 | 11 3/4 | 7/16 | | 2.25 | 1034A |
| 1034 | 7/8 & 11/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | | | | | 1034 |
| 1035 | 31/32 & 11/16 | 9/16 & 5/8 | | 3/4 | | | | | | 1035 |
| *1735 | 1 & 1 1/8 | | 3/4 & 7/8 | 11/16 | 5/8 & 3/4 | 12 3/4 | 1/2 | | 3.15 | 1735 |
| 1037 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | | 3/4 & 7/8 | | | | | | 1037 |
| 1737 | 1 1/8 & 1 1/4 | 3/4 | 7/8 | 7/8 | 3/4 | | | | | 1737 |
| 1037A | 1 1/8 & 1 5/16 | | 7/8 & 1 | | 3/4 & 7/8 | | | | | 1037A |
| 1039 | 1 1/4 & 1 7/16 | 3/4 & 7/8 | | 7/8 & 1 | | 14 | 9/16 | | 4.90 | 1039 |
| 1039A | 1 5/16 & 1 1/2 | 1 & 1 1/8 | | 7/8 & 1 1/8 | | | | | | 1039A |
| 1040 | 1 1/4 & 1 5/8 | 3/4 & 1 | | 7/8 & 1 1/8 | | | | | | 1040 |
| 1041 | 1 7/16 & 1 5/8 | 7/8 & 1 | | 1 & 1 1/8 | | 15 3/4 | 3/4 | | 8.80 | 1041 |

*Long "Superrenches" for heavy service, see page 42.

Weights, page I.

† REGISTERED TRADE MARK

3-43

(Carbon Steel Wrenches, pages 4 and 5)

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' + "SUPERRENCH" SETS (Chrome-Molybdenum)

"SUPERRENCH" SET No. 1025 FOR GENERAL SERVICE

LIST PRICE, Chrome-Finished:

In Leatherette Roll \$8.65

In Cardboard Box \$7.55

This efficient handy assortment consists of six "Superrenches" with 12 different openings, 3/8 to 1". Service all S.A.E. nuts and cap screws, 1/4 to 11/16", U. S. Std. nuts 1/4 to 1/2", Amer. Std. Regular nuts 1/4 to 5/8", and hex cap screws 3/16 to 3/4".

For similar Carbon Steel Wrench Set No. 25, see page 28.



| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | LIST Each, Chrome-Finished | No. |
|-------|------------------|--|--|--|-----------------------------------|----------------------------|-------|
| 1723 | 3/8 & 7/16 | 1/4 & 5/16 | 3/16 & 1/4 | 1/4 | 1/4 | \$.58 | 1723 |
| 1025 | 1/2 & 19/32 | 3/8 | 5/16 | 3/8 | 5/16 | .82 | 1025 |
| 1027C | 9/16 & 11/16 | 7/16 | 3/8 | 7/16 | 3/8 | 1.00 | 1027C |
| 1028S | 5/8 & 25/32 | 1/2 | 7/16 | 1/2 & 9/16 | 7/16 & 9/16 | 1.24 | 1028S |
| 1731A | 3/4 & 7/8 | 3/4 | 1/2 & 5/8 | 5/8 & 11/16 | 5/8 | 1.65 | 1731A |
| 1033C | 15/16 & 1 | | 3/4 | | | 2.25 | 1033C |

"SUPERRENCH" SET No. 1712—EXTRA CAPACITY

LIST PRICE, Chrome-Finished:

In Leatherette Roll \$30.20

In Cardboard Box \$27.60

An excellent Set for Marine Engineers. Twelve "Superrenches" with 24 different openings, 5/16 to 1-5/8", cover ALL sizes of nuts S.A.E. Std. 1/4 to 1-1/8", U. S. Std. 1/8 to 1", Amer. Std. 1/4 to 1" and cap screws 1/8 to 1-1/8".



| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | LIST Each, Chrome-Finished | No. |
|-------|------------------|--|--|--|-----------------------------------|----------------------------|-------|
| 1021 | 5/16 & 13/32 | 1/8 & 3/16 | 1/8 | 1/8 | 1/4 | \$.58 | 1021 |
| 1723 | 3/8 & 7/16 | 1/4 & 5/16 | 3/16 & 1/4 | 1/4 | 1/4 | .58 | 1723 |
| 1025 | 1/2 & 19/32 | 3/8 | 5/16 | 3/8 | 5/16 | .82 | 1025 |
| 1727 | 9/16 & 5/8 | 7/16 | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 1.00 | 1727 |
| 1029 | 11/16 & 25/32 | 3/8 & 7/16 | 5/16 | 7/16 | 7/16 & 1/2 | 1.24 | 1029 |
| 1731 | 3/4 & 13/16 | 1/2 & 9/16 | 1/2 & 9/16 | 1/2 | 9/16 | 1.65 | 1731 |
| 1033 | 7/8 & 31/32 | 3/4 | 5/8 | 5/8 | 5/8 | 1.65 | 1033 |
| 1033C | 15/16 & 1 | | 3/4 | 5/8 | | 2.25 | 1033C |
| 1037A | 1 1/8 & 1 5/16 | 1 1/8 | 7/8 & 1 | | 3/4 & 7/8 | 3.15 | 1037A |
| 1038 | 1 1/16 & 1 7/16 | 5/8 & 7/8 | | 3/4 & 1 | | 4.90 | 1038 |
| 1739B | 1 3/8 & 1 1/2 | | 1 1/8 | | 1 | 4.90 | 1739B |
| 1040 | 1 1/4 & 1 5/8 | 3/4 & 1 | | 7/8 & 1 1/8 | | 4.90 | 1040 |

★ REGISTERED TRADE MARK

WILLIAMS' "SUPERRENCHES"
(Chrome-Molybdenum)

ENGINEERS' PATTERN

15° Angle—Single Head



THE "SUPERRENCH"

These wrenches can be supplied with heads bent at angles up to 90° from opening at extra cost.

Unfinished—Baked light gray enamel.

Finished—Chrome-plated; heads buffed bright.

| No. | Nominal Opening | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Cap Screw (S.A.E.); Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Ex- treme Length | Thick- ness Heads | LIST PRICE | | No. |
|-------|-----------------|--|--|--|---------------------------------------|------------------------|-------------------------|-----------------|---------------|---------------|
| | | | | | | | | Unfin- ished | Fin- ished | |
| 1000 | 5/16 | 1/8 | 1/8 | | | 3 1/2 | 7/32 | \$.33 | \$.47 | 1000 |
| 1000A | 5/16 | 1/8 | 3/16 | | | 4 | 1/4 | .33 | .47 | 1700 1000A |
| 1701 | 7/16 | 1/4 | 1/4 | 1/4 | | 4 5/8 | 9/32 | .30 | .56 | 1701 1001 |
| 1702 | 7/16 | 1/4 | 5/16 | 5/16 | 5/16 | 5 1/2 | 5/16 | .50 | .70 | 1702 1002 |
| 1703 | 5/8 | 3/8 | 7/16 | 7/16 | 3/8 | 6 3/8 | 11/32 | .62 | .85 | 1703 1003 |
| 1704 | 11/16 | 3/8 | 1/2 | 1/2 | 7/16 | 7 1/4 | 3/8 | .78 | 1.05 | 1704 1004 |
| 1705 | 13/16 | 7/8 | 9/16 | 9/16 | 1/2 | 8 1/8 | 7/16 | .96 | 1.25 | 1705 1005 |
| 1006A | 15/16 | 1 1/2 | 5/8 | 5/8 | 9/16 | 9 1/4 | 1/2 | 1.16 | 1.50 | 1006A 1006 |
| 1706 | 31/32 | 9/16 | 3/4 | 11/16 | 5/8 | 10 1/2 | 9/16 | 1.47 | 1.88 | 1706 1007 |
| 1008 | 1 1/16 | 5/8 | 7/8 | 3/4 | 3/4 | 12 | 21/32 | 2.00 | 2.50 | 1008 1008A |
| 1709 | 1 1/8 | 3/4 | 1 | 7/8 | 7/8 | 13 1/2 | 23/32 | 3.05 | 3.80 | 1709 1009 |
| 1010 | 1 1/4 | 7/8 | 1 1/8 | 1 | 1 | 15 | 25/32 | 4.30 | 5.30 | 1010 1010A |
| 1011 | 1 5/8 | 1 | 1 1/4 | 1 1/8 | 1 1/8 | 16 1/2 | 7/8 | 5.85 | 6.90 | 1011 1011A |
| 1012 | 1 3/4 | 1 1/8 | 1 1/2 | 1 1/4 | 1 1/4 | 18 1/4 | 15/16 | 7.90 | 9.40 | 1012 1012A |
| 1013 | 2 | 1 1/4 | 1 3/8 | 1 3/8 | 1 3/8 | 20 | 1 | 10.35 | 12.15 | 1013 1013A |
| 1014 | 2 1/8 | 1 3/8 | 1 1/2 | 1 1/2 | 1 1/2 | 22 | 1 1/16 | 13.00 | 15.30 | 1014 1014A |

GENERAL SERVICE PATTERN



Due to the use of Chrome-Molybdenum steel, these "Superrenches" provide increased strength and toughness over the carbon steel wrench of corresponding size. Long, light and efficient. Heat-treated, chrome-finished, heads bright.

Whitworth Standard sizes, see page 127.

| No. | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Cap Screw (S.A.E.); Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | Nominal Opening | LIST PRICE Each, Chrome-Finished | No. | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Cap Screw (S.A.E.); Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | Nominal Opening | LIST PRICE Each, Chrome-Finished |
|-------|--|--|--|-----------------------------------|-----------------|----------------------------------|-------|--|--|--|-----------------------------------|-----------------|----------------------------------|
| | | | | | | | | | | | | | |
| 1081H | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | \$.93 | 1081H | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | \$ 1.75 |
| 1081B | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1081B | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1081A | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1081A | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1083K | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1083K | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1083J | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1083J | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1083 | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1083 | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1083B | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1083B | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1083A | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1083A | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1085H | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1085H | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1085 | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1085 | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1085J | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1085J | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1085C | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1085C | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1085B | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1085B | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |
| 1085K | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | | 1085K | 3/8 | 7/16 & 1/2 | 7/16 | 3/8 & 1/2 | 3/8 & 1/2 | |

Weights, page I.

★ REGISTERED TRADE MARK

(Carbon Steel Wrenches, pages 2, 3 and 13)

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

WILLIAMS' "SUPERRENCHES"
(Chrome-Molybdenum)

CONSTRUCTION and STRUCTURAL PATTERNS

Structural Pattern
Straight Opening



Construction Pattern
15° Angle



These wrenches have been made especially to meet the needs of structural workers. The slim design provides ample strength and leverage without unnecessary weight and bulk.

The long, narrow jaws give substantially full bearing on square nuts. The round handle has tapered end for easy insertion into bolt holes when bringing same into line.

In the Structural Pattern, the abrupt offset and angle of handle provide for clearance of obstructions and safety to the operator's hands. The wrench is particu-

larly well balanced. When thrust into scabbard or belt-loop, the "step-up" of the round above the flat part of handle acts as a stop, yet is readily released.

In Structural Wrenches, the openings for U. S. Std. sizes are milled oversize for rough bolts and nuts. This pattern, therefore, has slightly larger openings than corresponding Construction Wrenches.

Drop-forged from Chrome-Molybdenum steel, heat-treated and finished in baked gray enamel all over.

Whitworth Std. sizes, see page 127.

| CONSTRUCTION PATTERN | | | | | | | STRUCTURAL PATTERN | | | | | | | | |
|----------------------|-----------------|-------------------------------|-------------------------------|--------------------------------|------------------------|------------------|--------------------|-----------------|------------------------------|-------------------------------|-------------------------|-----------------|---------------|---------|------------------|
| No. | Nominal Opening | For U. S. Std. Nut; Size Bolt | S.A.E. Std. Nut and Cap Screw | Amer. Std. Reg. Nut; Size Bolt | Extreme Length Approx. | List Price, Each | No. | Nominal Opening | For U. S. Std. Nut Size Bolt | Amer. Std. Reg. Nut Size Bolt | Extreme Length, Approx. | Thick-ness Head | Handle Offset | | List Price, Each |
| | | | | | | | | | | | | | At Head | At End | |
| 1203A | 5/8 | ..... | 7/16 | 3/8 | 12 | \$1.43 | 1903A | 5/8 | ..... | 3/8 | 12 | 7/16 | 3/4 | 1-11/16 | \$ 1.68 |
| *1203 | 11/16 | 3/8 | ..... | ..... | 12 | 1.43 | 1903 | 11/16 | 3/8 | ..... | 12 | 7/16 | 3/4 | 1-11/16 | 1.68 |
| 1205A | 13/16 | ..... | ..... | 1/2 | 14 1/2 | 1.86 | 1905A | 13/16 | ..... | 1/2 | 14-1/2 | 17/32 | 7/8 | 1-7/8 | 2.25 |
| 1205 | 7/8 | 1/2 | 9/16 | 9/16 | 14 1/2 | 1.86 | *1905 | 7/8 | 1/2 | 9/16 | 14-1/2 | 17/32 | 7/8 | 1-7/8 | 2.25 |
| 1206B | 1 | ..... | 11/16 | 5/8 | 14 1/2 | 1.86 | 1906 | 1 | ..... | 5/8 | 14-1/2 | 17/32 | 7/8 | 1-7/8 | 2.25 |
| *1207 | 1 1/16 | 5/8 | 3/4 | ..... | 17 | 2.60 | *1907 | 1- 1/16 | 5/8 | ..... | 17 | 5/8 | 1 | 2-3/8 | 3.15 |
| 1207A | 1 1/8 | ..... | ..... | 3/4 | 17 | 2.60 | 1907A | 1- 1/8 | ..... | 3/4 | 17 | 5/8 | 1 | 2-3/8 | 3.15 |
| *1208 | 1 1/4 | 3/4 | 7/8 | ..... | 19 | 3.50 | *1908 | 1- 1/4 | 3/4 | ..... | 19 | 11/16 | 1-1/8 | 2-3/4 | 4.25 |
| 1208A | 1 5/16 | ..... | ..... | 7/8 | 19 | 3.50 | 1908A | 1- 5/16 | ..... | 7/8 | 19 | 11/16 | 1-1/8 | 2-3/4 | 4.25 |
| *1209 | 1 7/16 | 7/8 | 1 | ..... | 21 | 4.80 | *1909 | 1- 7/16 | 7/8 | ..... | 21 | 3/4 | 1-1/4 | 3-1/16 | 5.85 |
| 1209A | 1 1/2 | ..... | ..... | 1 | 21 | 4.80 | 1909 | 1- 1/2 | ..... | 1 | 21 | 3/4 | 1-1/4 | 3-1/16 | 5.85 |
| 1210 | 1 5/8 | 1 | 1 1/8 | ..... | 23 | 6.80 | *1910 | 1- 5/8 | 1 | ..... | 23 | 13/16 | 1-7/16 | 3-3/8 | 8.10 |
| 1211 | 1 13/16 | 1 1/8 | 1 1/4 | ..... | 25 | 10.00 | 1910 | 1-11/16 | ..... | 1-1/8 | 23 | 13/16 | 1-7/16 | 3-3/8 | 8.10 |
| 1212 | 2 | 1 1/4 | 1 3/8 | ..... | 25 | 10.00 | 1911 | 1-13/16 | 1-1/8 | ..... | 25 | 7/8 | 1-5/8 | 3-11/16 | 12.25 |
| | | | | | | | 1912 | 1- 7/8 | ..... | 1-1/4 | 25 | 7/8 | 1-5/8 | 3-11/16 | 12.25 |
| | | | | | | | 1912 | 2 | 1-1/4 | ..... | 25 | 7/8 | 1-5/8 | 3-11/16 | 12.25 |

†Based on U. S. S. Nut Formula. Actual openings are 1/32 to 1/16" larger for proper clearance on rough nuts and bolts.

*Carried in stock with short tangs for oil construction and derrick service. Details on request.

† REGISTERED TRADE MARK

(Carbon Steel Wrenches, pages 18 and 19)

Weights, pages I and J.

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERRENCHES" (Chrome-Molybdenum)

STRUCTURAL BOX PATTERN With 12-Point Openings



This Williams' Structural Box "Superrench" is designed to bring greater safety to structural work. The 12-point Box Head insures a firm hold on the nut and it is offset to give maximum clearance. The long sturdy tapered handle provides ample strength and leverage, and can easily be

inserted into bolt holes to bring them into line.

These rugged wrenches are also adapted to heavy work where unusual leverage is necessary.

Drop-forged from Chrome-Molybdenum steel, heat-treated, and finished in baked gray enamel all over.

| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Extreme Length, Approx. | Head | | Handle Offset | | List Price, Each |
|------|------------------|--|-------------------------|-----------|------------------|---------------|---------|------------------|
| | | | | Thickness | Outside Diameter | At Head | At End | |
| 8909 | 1- 7/16 | 7/8 | 21 | 1 | 2- 3/8 | 1- 1/2 | 2- 3/4 | \$4.40 |
| 8910 | 1- 5/8 | 1 | 22 | 1-1/16 | 2- 5/8 | 1- 5/8 | 2- 7/8 | 5.15 |
| 8911 | 1-13/16 | 1-1/8 | 23 | 1-1/8 | 2-29/32 | 1-11/16 | 3 | 5.50 |
| 8912 | 2 | 1-1/4 | 24-1/2 | 1-1/4 | 3- 5/32 | 1-13/16 | 3- 5/32 | 5.85 |
| 8913 | 2- 3/16 | 1-3/8 | 26 | 1-3/8 | 3-15/32 | 2 | 3- 1/2 | 7.65 |
| 8914 | 2- 3/8 | 1-1/2 | 28 | 1-1/2 | 3-23/32 | 2- 1/8 | 3-11/16 | 8.65 |

NOTE: These Wrenches can be supplied with heads bent up to 90° right or left of handle at extra charge.

STRIKING FACE BOX—OFFSET PATTERN With 12-Point Openings



The Striking Face Box "Superrench" is particularly well adapted for heavy work in close quarters where large nuts must be set up tight or frozen nuts loosened.

Offset head gives ample nut clearance. Drop-forged from Chrome-Molybdenum steel, properly heat-treated to withstand the necessary shocks. Finished in baked gray enamel all over.

| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Extreme Length Approx. | Head | | List Price, Each |
|------|------------------|--|--|------------------------|-----------|------------------|------------------|
| | | | | | Thickness | Outside Diameter | |
| 8807 | 1- 1/16 | 5/8 | 3/4 | 10-1/2 | 13/16 | 1-27/32 | \$4.75 |
| 8808 | 1- 1/4 | 3/4 | 7/8 | 11 | 7/8 | 2- 3/32 | 5.00 |
| 8809 | 1- 7/16 | 7/8 | 1 | 11-1/2 | 1 | 2- 3/8 | 6.10 |
| 8810 | 1- 5/8 | 1 | 1-1/8 | 12 | 1-1/16 | 2- 5/8 | 6.85 |
| 8811 | 1-13/16 | 1-1/8 | 1-1/4 | 12-1/2 | 1-1/8 | 2-29/32 | 7.15 |
| 8812 | 2 | 1-1/4 | 1-3/8 | 13 | 1-1/4 | 3- 5/32 | 7.50 |
| 8813 | 2- 3/16 | 1-3/8 | 1-1/2 | 13-1/2 | 1-3/8 | 3-15/32 | 9.35 |
| 8814 | 2- 3/8 | 1-1/2 | ..... | 14 | 1-1/2 | 3-23/32 | 10.35 |
| 8815 | 2- 9/16 | 1-5/8 | ..... | 14-1/2 | 1-5/8 | 3-29/32 | 11.50 |
| 8816 | 2- 3/4 | 1-3/4 | ..... | 15 | 1-3/4 | 4- 5/32 | 12.75 |

Weights, page J.

★ REGISTERED TRADE MARK

SUPERIOR DROP-FORGINGS



AND DROP-FORGED TOOLS



Regular

WILLIAMS' "SUPERRENCHES" (Chrome-Molybdenum)

12-POINT BOX PATTERNS FOR CLOSE QUARTERS

12-Point Opening—7½° Angle

These "Superrenches," with thin head walls, are particularly efficient in close quarters. They grip nuts on six sides and prevent slipping. Will rotate hex nuts where the wrench can be swung only 15°—HALF the space required by conventional wrenches.

Made in 2 patterns, as listed below:—

Regular—with thin heads for general service.

Heavy—with heads approximately as thick as the nuts they handle, for extra strength and full bearing in severe service.

Each pattern is drop-forged from Chrome-Molybdenum steel, heat-treated and furnished in 2 conditions:—

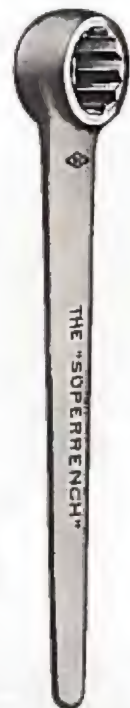
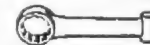
Unfinished—Baked, gray enamel all over; heads not bright.

Finished—Chrome-plated; faces of heads buffed bright.



Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge; see illustration.

† At additional charge Heavy Pattern wrenches are also furnished with "striking-face" on end of handle, as illustrated; lengths listed below:—



Heavy

| Nos. | H1808 | H1809 | H1810 | H1811 | H1812 | H1813 | H1814 | H1815 | H1816 | H1817A |
|--------|--------|--------|--------|--------|-------|--------|-------|--------|-------|--------|
| | H1808A | H1809A | H1810A | H1811A | | H1813A | | H1816A | | H1817 |
| Length | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 17 |

| No. | Nominal Opening Across Flats | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screw; Dinm. Screw | For Amer. Std. LIGHT Nut (S. A. E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Extreme Length, Approx. | Head | | LIST PRICE | |
|----------------------------------|------------------------------|--|--|--|---------------------------------------|-------------------------|-----------|------------------|-------------|----------|
| | | | | | | | Thickness | Outside Diameter | Un-finished | Finished |
| REGULAR PATTERN—12-POINT OPENING | | | | | | | | | | |
| 1800A | 7/16 | | 1/4 | 1/4 | 1/4 | 3 1/2 | 7/32 | 45/64 | | \$.61 |
| 1801 | 1/2 | 1/4 | 5/16 | 5/16 | | 4 | 17/64 | 27/32 | | .73 |
| 1802A | 9/16 | | 3/8 | 3/8 | 5/16 | 4 7/8 | 5/16 | 31/32 | | .86 |
| 1802 | 19/32 | 5/16 | | | | 4 7/8 | 5/16 | 63/64 | | .86 |
| 1803A | 5/8 | | 7/16 | 7/16 | 3/8 | 5 7/8 | 23/64 | 1 1/16 | | 1.00 |
| 1803 | 11/16 | 3/8 | | | | 5 7/8 | 23/64 | 1 9/64 | | 1.00 |
| 1804A | 3/4 | | 1/2 | 1/2 | 7/10 | 6 7/8 | 11/32 | 1 1/4 | | 1.15 |
| 1804 | 25/32 | 7/10 | | | | 6 7/8 | 11/32 | 1 3/8 | | 1.15 |
| 1805A | 13/16 | | 9/16 | | 1/2 | 7 3/4 | 25/64 | 1 3/8 | | 1.40 |
| 1805 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 7 3/4 | 25/64 | 1 1/2 | | 1.40 |
| 1806A | 15/16 | | | 5/8 | | 8 3/4 | 7/16 | 1 9/16 | | 1.70 |
| 1806 | 31/32 | 9/16 | | | | 8 3/4 | 7/16 | 1 11/16 | | 1.70 |
| 1806B | 1 | | 3/4 | 11/16 | 5/8 | 8 3/4 | 7/16 | 1 11/16 | | 1.70 |
| 1807 | 1 1/16 | 5/8 | | 3/4 | | 9 7/8 | 9/16 | 1 25/32 | | 2.05 |
| 1807A | 1 1/8 | | 7/8 | | 3/4 | 9 7/8 | 9/16 | 1 25/32 | | 2.05 |
| 1808 | 1 1/4 | 3/4 | | 7/8 | | 11 1/2 | 9/16 | 2 1/16 | | 2.60 |
| 1808A | 1 5/16 | | 1 | | 7/8 | 11 1/2 | 9/16 | 2 1/16 | | 2.60 |
| 1809 | 1 7/16 | 7/8 | | 1 | | 13 3/8 | 21/32 | 2 3/8 | | 3.50 |
| 1809A | 1 1/2 | | 1 1/8 | | 1 | 13 3/8 | 21/32 | 2 3/8 | | 3.50 |
| 1810 | 1 5/8 | 1 | | 1 1/8 | | 15 1/4 | 3/4 | 2 5/8 | | 4.70 |
| 1810A | 1 11/16 | | 1 1/4 | | 1 1/8 | 15 1/4 | 3/4 | 2 5/8 | | 4.70 |
| 1811 | 1 13/16 | 1 1/8 | | 1 1/4 | | 17 | 13/16 | 2 7/8 | | 6.20 |
| 1811A | 1 7/8 | | | | 1 1/4 | 17 | 13/16 | 2 7/8 | | 6.20 |
| 1812 | 2 | 1 1/4 | | 1 3/8 | | 19 | 15/16 | 3 1/4 | | 8.05 |
| HEAVY PATTERN—12-POINT OPENING | | | | | | | | | | |
| H1808 | 1 1/4 | 3/4 | | 7/8 | | 11 1/2 | 13/16 | 2 1/16 | | 3.45 |
| H1808A | 1 5/16 | | 1 | | 7/8 | 11 1/2 | 13/16 | 2 1/16 | | 3.45 |
| H1809 | 1 7/16 | 7/8 | | 1 | | 13 3/8 | 15/16 | 2 3/8 | | 4.65 |
| H1809A | 1 1/2 | | 1 1/8 | | 1 | 13 3/8 | 15/16 | 2 3/8 | | 4.65 |
| H1810 | 1 5/8 | 1 | | 1 1/8 | | 15 1/4 | 1 1/8 | 2 5/8 | | 6.25 |
| H1810A | 1 11/16 | | 1 1/4 | | 1 1/8 | 15 1/4 | 1 1/8 | 2 5/8 | | 6.25 |
| H1811 | 1 13/16 | 1 1/8 | | 1 1/4 | | 17 | 1 1/4 | 2 15/16 | | 8.25 |
| H1811A | 1 7/8 | | | | 1 1/4 | 17 | 1 1/4 | 2 15/16 | | 8.25 |
| H1812 | 2 | 1 1/4 | | 1 3/8 | | 19 | 1 3/8 | 3 1/4 | | 10.70 |
| H1813 | 2 3/16 | 1 3/8 | | 1 1/2 | | 21 | 1 1/2 | 3 1/2 | | 13.55 |
| H1813A | 2 1/4 | | | | 1 1/2 | 21 | 1 1/2 | 3 1/2 | | 13.55 |
| H1814 | 2 3/8 | 1 1/2 | | | | 23 | 1 5/8 | 3 3/4 | | 16.90 |
| H1815 | 2 9/16 | 1 5/8 | | | | 25 | 1 3/4 | 4 1/8 | | 28.05 |
| H1815A | 2 5/8 | | | | 1 3/4 | 25 | 1 3/4 | 4 1/8 | | 28.05 |
| H1816 | 2 3/4 | 1 3/4 | | | | 27 | 1 7/8 | 4 9/16 | | 40.20 |
| H1817A | 3 | | | | 2 | 30 | 2 | 4 13/16 | | 55.00 |
| H1817 | 3 1/8 | 2 | | | | 30 | 2 | 4 13/16 | | 55.00 |

Weights, pages I and J.

† REGISTERED TRADE MARK

(Carbon Steel Wrenches, pages 8-A and 9)

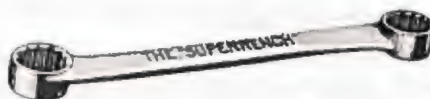
NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' 12-POINT-BOX + "SUPERRENCHES" (Chrome-Molybdenum)

15° ANGLE OFFSET PATTERNS

Nos. 6723 to 6727



Nos. 7723 to 7739A

These 12-Point Box "Superrenches" are particularly well adapted to work in close quarters. Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nut's corners. The Long Pattern provides unusual reach and leverage.

Each head has a 12-point opening; consequently, hex nuts can be completely ro-

tated where the swing of the wrench is limited to 30°—less than 1/10 of a full turn.

GENUINE "SUPERRENCHES," forged from Chrome-Molybdenum steel, heat-treated and furnished in 2 conditions:

Unfinished—Baked light gray enamel.
Finished—Chrome-plated over nickel.

Supplied in Whitworth Standard sizes also; details on request.

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U. S. S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S. A. E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | LIST PRICE | | No. |
|---|---------------------|--|--|--|---|-------------------------------|-----------------|----------|-----|
| | | | | | | | Un- finished | Finished | |
| LONG PATTERN—Different Opening in Each Head | | | | | | | | | |
| 7723 | 3/8 & 7/16 | | 3/16 & 1/4 | 1/4 & 5/16 | 1/4 | 7-3/8 | \$.95 | 7723 | |
| 7725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 5/16 & 3/8 | 1/4 | 7-3/4 | .95 | 7725 | |
| 7725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 | 5/16 | 8-1/4 | 1.00 | 7725B | |
| 7025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | ..... | 8-1/4 | 1.00 | 7025 | |
| 7727 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 9-1/4 | 1.05 | 7727 | |
| 7727A | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | 3/8 | 10-1/2 | 1.20 | 7727A | |
| 7729 | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 10-1/2 | 1.20 | 7729 | |
| 7729A | 3/4 & 25/32 | 7/16 | 1/2 | 1/2 | 7/16 | 12 | 1.40 | 7729A | |
| 7731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 12 | 1.40 | 7731A | |
| 7731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | 12 | 1.55 | 7731B | |
| 7033 | 7/8 & 31/32 | 1/2 & 9/16 | 5/8 | 9/16 | 9/16 | 13-3/4 | 1.85 | 7033 | |
| 7033C | 15/16 & 1 | ..... | 3/4 | 5/8 & 11/16 | 5/8 | 13-3/4 | 1.85 | 7033C | |
| 7735A | 1-1/16 & 1-1/8 | 5/8 | 7/8 | 3/4 | 3/4 | 17-1/4 | 3.30 | 7735A | |
| *7737 | 1-1/8 & 1-1/4 | 3/4 | 7/8 | 7/8 | 3/4 | 19 | 3.80 | 7737 | |
| 7039 | 1-1/4 & 1-7/16 | 3/4 & 7/8 | ..... | 7/8 & 1 | ..... | 19 | 3.80 | 7039 | |
| 7039A | 1-5/16 & 1-1/2 | ..... | 1 & 1-1/8 | ..... | 7/8 & 1 | 19 | 3.80 | 7039A | |

* Has thicker head walls for severe service.

| | | | | | | | | | |
|--|------------|-----|------------|------------|------------|-------|--------|--|-------|
| SHORT PATTERN—Different Opening in Each Head | | | | | | | | | |
| 6723 | 3/8 & 7/16 | | 3/16 & 1/4 | 1/4 & 5/16 | 1/4 | 4-1/2 | \$.95 | | 6723 |
| 6725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 5/16 & 3/8 | 1/4 | 5-1/2 | 1.00 | | 6725 |
| 6725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 & 3/8 | 5-1/2 | 1.00 | | 6725B |
| 6727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 | 1.10 | | 6727 |

For handy, economical Sets, see page 40.

★ REGISTERED TRADE MARK

Weights, page J.

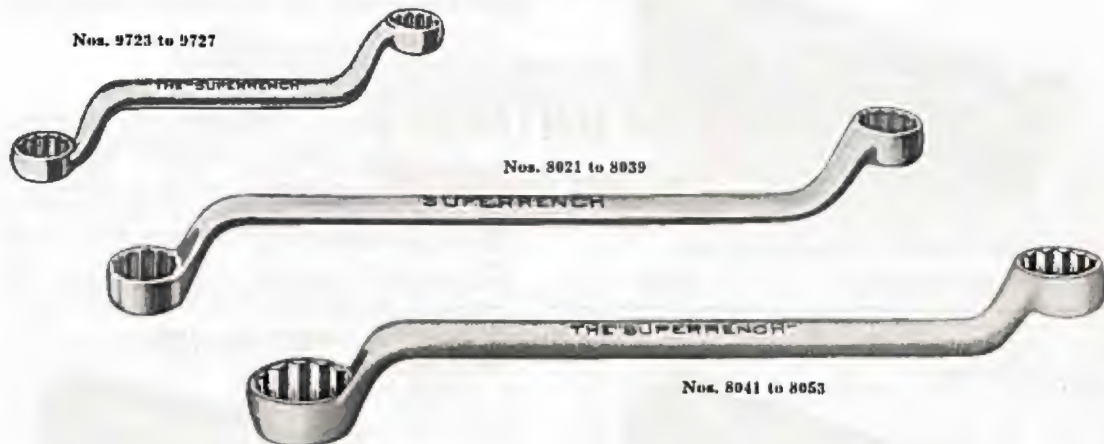
3-43

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

WILLIAMS' 12-POINT-BOX "SUPERRENCHES"
(Chrome-Molybdenum)

DOUBLE OFFSET PATTERNS



These 12-Point Box "Superrenches" are particularly well adapted to work in close quarters. Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nut's corners. The Long Pattern provides unusual reach and leverage.

Each head has a 12-point opening; consequently, hex nuts can be completely rotated where the swing of the wrench is limited to 30°—less than 1/10 of a full turn.

GENUINE "SUPERRENCHES," forged from Chrome-Molybdenum steel, heat-treated, and furnished in 2 conditions as follows:—

Unfinished—Baked light gray enamel.

Finished—Chrome-plated over nickel.

Supplied in Whitworth Standard and Metric sizes also; details on request.

| No. | Nominal Openings | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screws; Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Extreme Length, Approx. | LIST PRICE | | No. |
|--|------------------|--|---|--|---------------------------------------|-------------------------|---------------------------------|----------|-------|
| | | | | | | | Un-finished | Finished | |
| LONG PATTERN—Different Opening in Each Head | | | | | | | | | |
| 8021 | 5/16 & 13/32 | 1/8 & 3/16 | 1/8 | 3/16 & 1/4 | 1/4 | 7-1/4 | DISCONTINUED FOR "THE DURATION" | \$.80 | 8021 |
| 8723 | 3/8 & 7/16 | 1/4 | 1/4 & 5/16 | 5/16 | 1/4 | 7-3/4 | | .95 | 8723 |
| 8725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 5/16 | 1/4 | 8-1/4 | | .95 | 8725 |
| 8725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 8-3/4 | | 1.00 | 8725B |
| 8025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 5/16 | 8-3/4 | | 1.00 | 8025 |
| 8727 | 9/16 & 5/8 | 3/8 | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 9-3/4 | | 1.05 | 8727 |
| 8727A | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | 3/8 | 11 | | 1.20 | 8727A |
| 8729 | 5/8 & 3/4 | 3/8 | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 11 | | 1.20 | 8729 |
| 8729A | 3/4 & 25/32 | 7/16 | 1/2 | 1/2 | 7/16 | 12-1/2 | | 1.40 | 8729A |
| 8731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 12-1/2 | | 1.40 | 8731A |
| 8731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | 12-1/2 | | 1.40 | 8731B |
| 8033 | 7/8 & 31/32 | 1/2 & 9/16 | 5/8 | 9/16 | 9/16 | 13-1/2 | | 1.65 | 8033 |
| 8033C | 15/16 & 1 | 5/8 | 3/4 | 5/8 & 11/16 | 5/8 | 14-1/2 | | 1.85 | 8033C |
| 8735A | 1-1/16 & 1-1/8 | 5/8 | 7/8 | 3/4 | 3/4 | 17 | | 3.30 | 8735A |
| 8039 | 1-1/4 & 1-7/16 | 3/4 & 7/8 | 1 | 7/8 & 1 | 7/8 | 19 | | 3.80 | 8039 |
| 8039A | 1-5/16 & 1-1/2 | 3/4 & 7/8 | 1 & 1-1/8 | 1 | 7/8 & 1 | 19 | | 3.80 | 8039A |
| FOR HEAVY SERVICE—LONG PATTERN—Round Handle | | | | | | | | | |
| 8041 | 1- 7/16 & 1-5/8 | 7/8 & 1 | 1 | 1 & 1-1/8 | 23 | 4.95 | | | 8041 |
| 8045 | 1-13/16 & 2 | 1-1/8 & 1-1/4 | 1-1/4 | 1-1/4 & 1-3/8 | 25 | 8.45 | | | 8045 |
| 8049 | 2-3/16 & 2-3/8 | 1-3/8 & 1-1/2 | 1-1/2 | 1-1/2 | 27 | 10.60 | | | 8049 |
| 8053 | 2-9/16 & 2-3/4 | 1-5/8 & 1-3/4 | 1-3/4 | 1-3/4 | 30 | 16.25 | | | 8053 |
| SHORT PATTERN—Different Opening in Each Head | | | | | | | | | |
| 9723 | 3/8 & 7/16 | 1/4 | 3/16 & 1/4 | 1/4 | 1/4 | 4-1/2 | | .95 | 9723 |
| 9725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 5/16 | 1/4 | 5-1/2 | | 1.00 | 9725 |
| 9725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 6-1/2 | | 1.00 | 9725B |
| 9727 | 9/16 & 5/8 | 3/8 | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 | | 1.10 | 9727 |

For handy, economical Sets, see page 40.

★ REGISTERED TRADE MARK

Weights, page J.

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

12-POINT BOX + "SUPERRENCH" SETS (Chrome-Molybdenum)

SET No. 8005 — LONG WRENCHES

5 DOUBLE OFFSET
WRENCHES



Genuine "Superrenches"—Chrome-Molybdenum steel, heat-treated and furnished in 2 conditions:—

FINISHED—Chrome-plated over nickel.

Contents of Set No. 8005

| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Length Approx. |
|------|---------------------|--|--|--|-------------------|
| 8021 | 5/16 & 13/32 | 1/8 & 3/16 | 1/8 | 5/16 | 7-1/4 |
| 8025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 8-3/4 |
| 8029 | 11/16 & 25/32 | 3/8 & 7/16 | 5/8 | 9/16 | 11 |
| 8033 | 7/8 & 31/32 | 1/2 & 9/16 | 5/8 | 3/4 & 7/8 | 13-1/2 |
| 8037 | 1-1/16 & 1-1/4 | 5/8 & 3/4 | | | 17 |

LIST PRICE, in Cardboard Box

SET 8005—Finished \$8.10

SET No. 8006 — LONG WRENCHES — SET No. 7006

6 DOUBLE OFFSET
WRENCHES



6 WRENCHES
15° ANGLE



LIST PRICE, in Cardboard Box

SET 8006—Finished \$7.60

LIST PRICE, in Cardboard Box

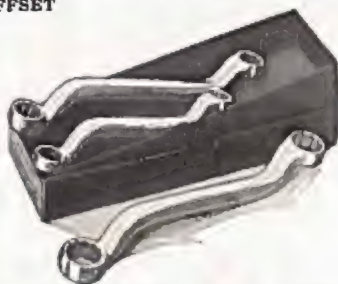
SET 7006—Finished \$7.60

| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | Length Approx. |
|-------|---------------------|--|-------------------------------------|-------------------------------------|------------------------------|-------------------|
| 8723 | 3/8 & 7/16 | | 3/16 & 1/4 | 1/4 | 1/4 | 7-3/4 |
| 8025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | | 8-3/4 |
| 8727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 9-3/4 |
| 8029 | 11/16 & 25/32 | 3/8 & 7/16 | | | | 11 |
| 8731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 12-1/2 |
| 8033C | 15/16 & 1 | | 3/4 | 5/8 & 11/16 | 5/8 | 14-1/2 |

| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | Length Approx. |
|-------|---------------------|--|-------------------------------------|-------------------------------------|------------------------------|-------------------|
| 7723 | 3/8 & 7/16 | 3/16 & 1/4 | 1/4 | 1/4 | 7-3/8 | |
| 7025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 8-1/4 | |
| 7727 | 9/16 & 5/8 | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 9-1/4 | |
| 7029 | 11/16 & 25/32 | 3/8 & 7/16 | 5/8 | 5/8 | 10-1/2 | |
| 7731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 7/16 & 9/16 | 12 | |
| 7033C | 15/16 & 1 | 3/4 | 5/8 & 11/16 | 5/8 | 13-3/4 | |

SET No. 9703 — SHORT WRENCHES — SET No. 6703

3 DOUBLE OFFSET
WRENCHES



3 WRENCHES
15° ANGLE



LIST PRICE, in Cardboard Box
SET 9703—Finished \$3.05

LIST PRICE, in Cardboard Box
SET 6703—Finished \$3.05

| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | Length Approx. |
|--------|---------------------|--|-------------------------------------|--|------------------------------|-------------------|
| 9723 | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 4-1/2 |
| *9725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5-1/2 |
| *9725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 5-1/2 |
| 9727 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 |

*Wrench No. 9725 is regularly supplied in Set, but No. 9725B may be substituted, if desired.

| No. | Nominal Openings | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | Length Approx. |
|--------|---------------------|--|-------------------------------------|--|------------------------------|-------------------|
| 6723 | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 4-1/2 |
| *6725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5-1/2 |
| *6725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 5-1/2 |
| 6727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 |

*Wrench No. 6725 is regularly supplied in Set, but No. 6725B may be substituted, if desired.

For Set 8105, Single Offset Pattern, see opposite page

★ REGISTERED TRADE MARK

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' + "SUPERRENCHES" (Chrome-Molybdenum)

OPEN END-BOX PATTERN For Close Quarters



These long, slender "Superrenches", combining two styles of head, are designed especially for use in close quarters and tight corners.

Open end is thin, with slim jaws and opening at angle of 15°.

Box end, with 12-point opening and thin walls, is offset from plane of handle; see illustration.

Same size opening in both heads; where one can not operate, the other will. Each rotates hex nuts when the wrench can swing only 30°.

Drop-forged from Chrome-Alloy steel, heat-treated, chrome-plated; faces of open end buffed.

Sold individually and in Sets.

Whitworth Std. sizes also; details on request.

| No. | Nominal Openings | Amer. Std. Heavy Nut (U.S.S.) | Amer. Std. Hex Cap Screw (S.A.E.) | Amer. Std. Light Nut (S.A.E.) | Amer. Std. Regr. Nut | Ex-treme Length, Approx. | LIST PRICE, Chrome-Finished |
|-------|------------------|-------------------------------|-----------------------------------|-------------------------------|----------------------|--------------------------|-----------------------------|
| 1160 | 3/8 & 3/8 | 3/16 | 1/4 | 1/4 | 1/4 | 5 | \$1.15 |
| 1161 | 7/16 & 7/16 | 1/2 | 5/16 | 5/16 | 5/16 | 5-3/8 | 1.18 |
| 1162 | 1/2 & 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 6 | 1.28 |
| 1163 | 9/16 & 9/16 | 5/8 | 3/8 | 3/8 | 3/8 | 6-3/4 | 1.40 |
| 1164 | 5/8 & 5/8 | 7/16 | 7/16 | 7/16 | 7/16 | 7-5/8 | 1.55 |
| 1165 | 11/16 & 11/16 | 3/8 | 3/8 | 3/8 | 3/8 | 8-1/2 | 1.70 |
| 1166 | 3/4 & 3/4 | 1/2 | 1/2 | 1/2 | 1/2 | 9-1/2 | 1.85 |
| 1167 | 7/8 & 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 10-1/2 | 2.00 |
| 1167A | 13/16 & 13/16 | 9/16 | 1/2 | 1/2 | 1/2 | 10-1/2 | 2.00 |
| 1168 | 15/16 & 15/16 | 15/16 | 5/8 | 5/8 | 5/8 | 13 | 2.15 |
| 1170 | 1 & 1 | 1 | 3/4 | 11/16 | 5/8 | 13 | 2.15 |
| 1171 | 1-1/16 & 1-1/16 | 5/8 | 3/4 | 3/4 | 3/4 | 15 | 2.40 |
| 1173 | 1-1/4 & 1-1/4 | 3/4 | 3/4 | 7/8 | 7/8 | 18 | 2.90 |
| 1176 | 1-7/16 & 1-7/16 | 7/8 | 7/8 | 1 | 1 | 21 | 3.45 |

OPEN END-BOX SETS



SET No. 1168-S

List Price \$5.40

Complete in Cardboard Box

Set No. 1168-S with 4 wrenches, 1 each Nos. 1161, 1162, 1163 and 1164, covers all the more popular small sizes of various nuts and cap-screws; see table above.



SET No. 1169-S

LIST PRICE

In Leatherette Roll

\$10.05

In Cardboard Box

\$8.95

Set No. 1169-S contains 6 wrenches, 1 each, Nos. 1161, 1162, 1163, 1164, 1165 and 1166, and will service 16 different sizes of nuts and cap-screws; see table above. All are popular sizes.

SINGLE OFFSET 12-POINT BOX PATTERN



LIST PRICE OF SETS

No. 8105—Finished \$7.30

No. 8105U—Unfinished 7.00

In Cardboard Box

5 Wrenches as listed below



Sets Nos. 8105, 8105U

These 12-point Box "Superrenches", with the same opening in both heads, are unusually efficient in tight corners and close quarters. The straight head rotates hex nuts where the wrench swings but 15°; the offset end requires only 30° — less than 1/10 of a full turn. Where one head cannot operate, the other will. Length, 8-1/2" to 12".

Furnished in 2 styles of finish:—

Finished—Chrome-plated over nickel.

Unfinished—Baked light gray enamel.

Sold individually and in Sets.

Weights, pages I and J.

† REGISTERED TRADE MARK

Finished will be supplied unless otherwise specified.

| No. | Nominal Openings | Amer. Std. Heavy Nut (U.S.S.) | Amer. Std. Hex Cap Screw (S.A.E.) | Amer. Std. Light Nut (S.A.E.) | Amer. Std. Regr. Nut | Un-finished | Fin-labeled |
|------|------------------|-------------------------------|-----------------------------------|-------------------------------|----------------------|-------------|-------------|
| 8128 | 7/16 & 7/16 | 1/2 | 5/16 | 5/16 | 5/16 | \$1.20 | \$1.35 |
| 8132 | 1/2 & 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1.30 | 1.45 |
| 8136 | 9/16 & 9/16 | 5/8 | 3/8 | 3/8 | 3/8 | 1.40 | 1.55 |
| 8140 | 5/8 & 5/8 | 7/16 | 7/16 | 7/16 | 7/16 | 1.50 | 1.65 |
| 8148 | 3/4 & 3/4 | 1/2 | 1/2 | 1/2 | 1/2 | 1.60 | 1.80 |

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERRENCHES" (Chrome-Molybdenum)

ADJUSTABLE HOOK SPANNERS



Three sizes of Spanners offer an unusual combination of strength and ready adjustment, fitting all rounds from 2" to 4-3/4" diameter.

Drop-forged from Chrome-Molybdenum Steel, heat-treated and chrome-plated. Face of jaw and knurled part of handle beveled bright. Sold individually and in Set.

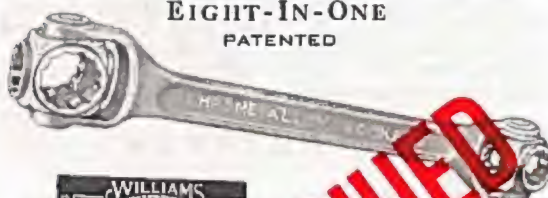
Set No. 1400

This Set covers a wide field of usefulness. It is especially serviceable on ball bearings of lathes, milling machines and grinding machines. Also for adjusting collars and locking hook nuts and rings used on many types of automatic machines.

| No. | Range of Length, Approx. | Extreme Length, Approx. | Thickness | | Depth Hook | List Price Each, Chrome-plated |
|------|--------------------------|-------------------------|-----------|-------|------------|--------------------------------|
| | | | Handle | Hook | | |
| 1471 | 3/4 to 2 | 6 3/8 | 1/4 | 11/32 | 1/8 | \$3.05 |
| 1472 | 1 1/4 to 3 | 8 1/8 | 9/32 | 13/32 | 5/32 | 3.50 |
| 1474 | 2 to 4 3/4 | 11 3/8 | 5/16 | 15/32 | 3/16 | 4.85 |

No. 1400 SET—In Leatherette Roll..... 12.10
Carbon Steel Wrenches, page 23.

WILLIAMS' "MULTISOCKET" WRENCH EIGHT-IN-ONE PATENTED



DISPLAY CARD

12-1/2 x 14-3/4

With Easy Box

Free with Purchase of Wrenches.

No. 1000 — List Price — \$4.00 each

8 Different Sizing Openings

Small Head; 3/16, 1/2, 9/16, 19/32"

Large Head; 5/8, 11/16, 3/4, 7/8"

The openings grip hex nuts on six sides; no slipping or rounding of the nuts' corners.

Swivel heads, with index spring to retain working opening in position for use, permit handle to be operated at practically any angle desired. Can be used as a socket wrench.

The entire wrench is drop-forged, heat-treated and finished in cadmium-plate. Length, 9 inches. Weights, pages I and J.

★ REGISTERED TRADE MARK

EXTRA LONG THIN PATTERN

15° Angle

Thin — Light — Strong

These extra long (12-1/2") wrenches are slender and light for easy adjustment, and narrow jawed for close places. Openings range from 3/8 to 5/8". All heads 3/16" thick.

Sold individually and in sets.

Drop-forged from special Chrome-Alloy steel, and heat-treated for maximum strength. Cadmium-plated.

| No. | Nominal Opening | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | List Price Each |
|-------|-----------------|------------------------------|-------------------------------|------------------------|-----------------|
| A100C | 3/8 | 3/16 | ..... | ..... | \$1.18 |
| A100 | 7/16 | 1/4 | 1/4 | 1/4 | 1.18 |
| A100A | 1/2 | 5/16 | 5/16 | ..... | 1.18 |
| A100B | 9/16 | 3/8 | 3/8 | 5/16 | 1.18 |
| A101 | 5/8 | 7/16 | 7/16 | 3/8 | 1.27 |

Set No. 106—6 wrenches; 2 each of Nos. A100A, A100B and A101.

Set No. 108—8 wrenches; 2 each of Nos. A100, A100A, A100B and A101.



Set No. 106

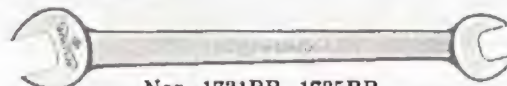


Set No. 108

| LIST PRICE | No. 106 | No. 108 |
|---------------------|---------|---------|
| In Leatherette Roll | \$7.85 | \$10.30 |
| In Cardboard Box | 7.25 | 9.60 |

LONG DOUBLE HEAD PATTERN

Long Pattern for heavy service where maximum leverage is desirable. Chrome-Finished with heads buffed bright.



Nos. 1731BR, 1735BR

| No. | Nominal Openings | Amer. Std. Hex Head Cap Screws | Amer. Std. Regular Nuts | Lgth. | Thick Heads | List Price |
|--------|------------------|--------------------------------|-------------------------|-------|-------------|------------|
| 1731BR | 3/4 & 7/8 | 1/2 & 5/8 | 7/16 & 9/16 | 15 | 3/8 | \$4.30 |
| 1735BR | 1 & 1-1/8 | 3/4 & 7/8 | 5/8 & 3/4 | 16 | 1/2 | 5.75 |



NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERRENCHES"

(Chrome-Molybdenum)

LIGHT THIN PATTERN—15° Angle, Double Head



LIGHT — THIN — STRONG
Different Opening in Each Head

These light, thin, double head Wrenches are slender and narrow jawed for easy adjustment in close quarters. The 15° angle of opening is unequalled in efficiency.

Drop-forged from special Chrome-Molybdenum steel, heat-treated, chrome-finished, heads buffed bright. Whitworth Std. sizes also; details on request.

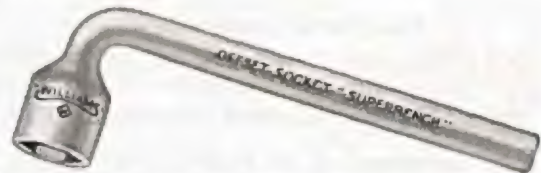
| No. | Nominal Openings | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screw; Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Extreme Length | Thickness Heads | LIST PRICE, Chrome-Finished | No. |
|-------|------------------|--|--|--|---------------------------------------|----------------|-----------------|-----------------------------|-------|
| 1090A | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 8 | 5/32 | \$.76 | 1090A |
| 1090B | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | 5/16 | ..... | 8 | 5/32 | .76 | 1090B |
| 1090 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 8 | 5/32 | .76 | 1090 |
| 1090C | 7/16 & 9/16 | ..... | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 & 5/16 | 8 | 5/32 | .76 | 1090C |
| 1090F | 1/2 & 17/32 | 1/4 | 5/16 | 5/16 | ..... | 8 | 5/32 | .76 | 1090F |
| 1090D | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 8 | 5/32 | .76 | 1090D |
| 1090E | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | ..... | 8 | 5/32 | .76 | 1090E |
| 1092B | 1/2 & 11/16 | 1/4 & 3/8 | 5/16 | 5/16 | ..... | 8 | 3/16 | .82 | 1092B |
| 1092 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 8 | 3/16 | .82 | 1092 |
| 1092C | 9/16 & 21/32 | ..... | 3/8 | 3/8 | 5/16 | 8 | 3/16 | .82 | 1092C |
| 1092D | 19/32 & 11/16 | 5/16 & 3/8 | ..... | ..... | ..... | 8 | 3/16 | .82 | 1092D |
| 1092F | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | 3/8 | 8 | 3/16 | .82 | 1092F |
| 1094A | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 9 | 7/32 | .88 | 1094A |
| 1094B | 19/32 & 25/32 | 5/16 & 7/16 | ..... | ..... | ..... | 9 | 7/32 | .88 | 1094B |
| 1094D | 11/16 & 25/32 | 3/8 & 7/16 | ..... | ..... | ..... | 9 | 7/32 | .88 | 1094D |
| 1094F | 11/16 & 7/8 | 3/8 & 1/2 | 5/8 | 9/16 | 9/16 | 9 | 7/32 | .88 | 1094F |
| 1094G | 3/4 & 13/16 | ..... | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 9 | 7/32 | .88 | 1094G |
| 1094 | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 9 | 7/32 | .88 | 1094 |
| 1096A | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | 9 | 7/32 | 1.06 | 1096A |
| 1096H | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 9 | 7/32 | 1.06 | 1096H |
| 1096 | 15/16 & 1 | ..... | 3/4 | 5/8 | 5/8 | 9 | 7/32 | 1.06 | 1096 |

OFFSET SOCKET "SUPERRENCH"

(Chrome-Molybdenum)

This heavy duty "Superrench" was especially designed for cracking-unit service in Oil Refineries. It is also well adapted for heavy industrial service.

Forged from Chrome-Molybdenum steel, heat-treated and finished in baked gray enamel.



| No. | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. LIGHT Nut (S.A.E.) | Nominal Opening Across Flats | Diam. of Head | Extreme Length, Approx. | Handle Offset in Clear | LIST PRICE Each | No. |
|-------|-------------------------------|-------------------------------|------------------------------|---------------|-------------------------|------------------------|-----------------|-------|
| 2273 | 5/8 | 3/4 | 1 1/16 | 1 3/4 | 11 5/8 | 2 3/4 | \$ 4.80 | 2273 |
| 2274 | 3/4 | 7/8 | 1 1/4 | 2 | 12 3/8 | 2 7/8 | 5.40 | 2274 |
| 2276 | 7/8 | 1 | 1 7/16 | 2 1/4 | 14 7/8 | 3 1/2 | 6.50 | 2276 |
| 2277 | 1 | 1 1/8 | 1 5/8 | 2 1/2 | 16 1/2 | 3 7/8 | 7.75 | 2277 |
| 2278 | 1 1/8 | 1 1/4 | 1 13/16 | 2 3/4 | 18 1/4 | 4 3/8 | 9.25 | 2278 |
| 2279 | 1 1/4 | 1 3/8 | 2 | 3 | 20 | 4 7/8 | 11.00 | 2279 |
| 2280 | 1 3/8 | 1 1/2 | 2 3/16 | 3 3/16 | 21 3/4 | 5 3/8 | 14.00 | 2280 |
| 2280A | 1 1/2 | ..... | 2 3/8 | 3 3/8 | 21 3/4 | 5 3/8 | 14.00 | 2280A |

Carbon Steel Offset Socket Wrenches, page 26

★ REGISTERED TRADE MARK

Weights, pages I and J.

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' MIDGET "SUPERRENCHES" (Chrome-Molybdenum)



Nos. 1106—1109



Nos. 1112—1132

Midget "Superrenches" are unusually thin and slim, but surprisingly tough and strong. On generators, wiring-connections, radios, all delicate adjustments and in the closest quarters, these wrenches are invaluable.

Made in two styles as follows:—

Nos. 1106 to 1109 have two different openings at 15° angle.

Nos. 1112 to 1132 have both openings in each wrench of the same size, but at different angles (15° and 75°)—where one head cannot operate, the other will.

Genuine "Superrenches," Chrome-Molybdenum steel, heat-treated, chrome-plated.

| No. | Nominal Openings | Extreme Length | Thickness Heads | LIST PRICE | No. |
|----------------------|------------------|----------------|-----------------|------------|------|
| 15° ANGLE OPENING | | | | | |
| 1106 | 13/64 & 7/32 | 3 | 3/32 | \$.65 | 1106 |
| 1107 | 15/64 & 1/4 | 3 | 3/32 | .65 | 1107 |
| 1108 | 9/32 & 11/32 | 3-1/2 | 1/8 | .72 | 1108 |
| 1109 | 5/16 & 3/8 | 3-1/2 | 1/8 | .72 | 1109 |
| 15-75° ANGLE OPENING | | | | | |
| 1112 | 3/16 & 3/16 | | | \$.65 | 1112 |
| 1113 | 13/64 & 13/64 | | | .65 | 1113 |
| 1114 | 7/32 & 7/32 | 3 | 3/32 | .65 | 1114 |
| 1115 | 15/64 & 15/64 | | | .65 | 1115 |
| 1116 | 1/4 & 1/4 | | | .65 | 1116 |
| 1118 | 9/32 & 9/32 | | | .72 | 1118 |
| 1120 | 5/16 & 5/16 | 3-3/4 | 1/8 | .72 | 1120 |
| 1122 | 11/32 & 11/32 | | | .72 | 1122 |
| 1124 | 3/8 & 3/8 | | | .72 | 1124 |
| 1128 | 7/16 & 7/16 | | | .82 | 1128 |
| 1132 | 1/2 & 1/2 | 4-1/2 | 5/32 | .82 | 1132 |

Supplied in handy Sets also; see below.

MIDGET "SUPERRENCH" ELECTRICAL SETS (Chrome-Molybdenum)



LIST PRICES

Complete in Leatherette Roll

SET 1140P—with "Superplier" No. 1519.....\$9.30

SET 1140 —without "Superplier" 7.45

Set 1140P furnished, unless otherwise specified.

An assortment of 10 Midget "Superrenches," Nos. 1112, 1113, 1114, 1115, 1116, 1118, 1120, 1122, 1124, 1128 and "Superplier" 1519, for those troublesome little jobs requiring small tools that are a help—not a hindrance.

Midget "Superplier" No. 1519, with 4-position slip-joint, has an opening range from 0 to 9/16". The jaws are parallel at the most important openings, thus minimizing injury to nuts. The handles, with slightly flared ends, provide ideal finger control. Drop-forged from Chrome-Alloy steel, heat-treated, cadmium finished. Length, 4-1/2". See page 71.



SET No. 1148P—LIST PRICE, \$5.15

Complete in Leatherette Roll

A compact, handy assortment of four midget size "Superrenches," Nos. 1106, 1107, 1108, 1109, and "Superplier" No. 1519 at very moderate price. All are especially designed for use in connection with wiring, panels and switchboards, radios and the innumerable jobs requiring small but strong tools with thin, slim jaws.

Weights, page I.

† REGISTERED TRADE MARK

10 42

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' REFRIGERATION WRENCHES

WILLIAMS' RATCHET WRENCHES (Drop-Forged—Chrome-plated)



Especially efficient for speedy and accurate adjustment of all valves.

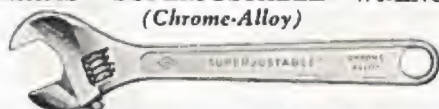
No. B-50A—List Price, \$3.60

Has 1/4" square drive-opening in ratchet; also, 1/4" sq. hole near end of handle. Length, 6-1/2".

No. B-50B—List Price, \$3.30

Has 5/16" sq. ratchet drive-open'g. Lgth. 6-1/2".

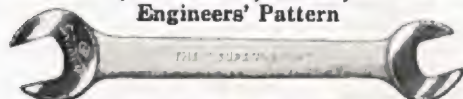
WILLIAMS' "SUPERJUSTABLE" WRENCHES (Chrome-Alloy)



Drop-forged from Chrome-Alloy Steel, "Superjustables" are thin and light, yet strong and tough. Square shoulders on Sliding Jaw shank permit heavier, stronger "web" with no increase in head thickness. Chrome-plated.

| Size, Inch. | List Price, Each | Capac- ity | Thickness Head | | Extra Parts—Price, Each | | | |
|----------------|------------------------|---------------|----------------|--------------|-------------------------|-------|-------|--------|
| | | | Tip of Jaws | Ex- treme | Jaw | Knurl | Pin | Spring |
| 4 | \$1.30 | 1/2 | 9/64 | 5/16 | \$.44 | \$.18 | \$.08 | \$.00 |
| 6 | 1.30 | 3/4 | 7/32 | 3/8 | .44 | .18 | .06 | .00 |
| 8 | 1.60 | 15/16 | 17/64 | 1/2 | .56 | .21 | .06 | .00 |
| 10 | 2.05 | 1-1/8 | 23/64 | 19/32 | .74 | .24 | .08 | .00 |
| 12 | 2.95 | 1-5/16 | 15/32 | 23/32 | 1.06 | .38 | .15 | .00 |

WILLIAMS' "SUPERRENCHES" (Chrome-Molybdenum) Engineers' Pattern



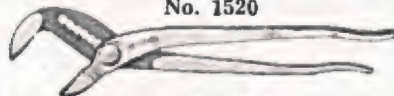
"Superrenches", with thin heads and narrow, pointed jaws are particularly well adapted to work in close quarters. Amazingly strong.

Heat-treated, chrome-plated, heads buffed.

Fifty other sizes; openings 5/16 to 1-5/8".

| No. | Nominal Openings | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | Ex- treme Lgth. | List Price, Each |
|-------|---------------------|-------------------------------------|--|------------------------------|-----------------------|------------------------|
| 1723 | 3/8 & 1/2 | 1/4 & 3/8 | 1/4 | 1/4 | 4 3/4 | \$.58 |
| 1725B | 1/2 & 3/4 | 3/8 & 1/2 | 3/8 & 1/2 | 1/2 | 6 1/4 | .82 |
| 1729 | 3/4 & 1 | 1/2 & 3/4 | 1/2 & 3/4 | 3/4 | 7 3/4 | 1.24 |
| 1733 | 1 & 1 1/8 | 3/4 & 1 | 3/4 & 1 | 1 | 10 3/4 | 2.25 |

WILLIAMS' "SUPERPLIERS" No. 1520



List Price, \$2.20

For general refrigeration use and especially serviceable on Frigidaire expansion valves. Slip joint—8 adjustments. Jaws close entirely, grip any thickness up to 2". Knurled handles provide firm hand grip.

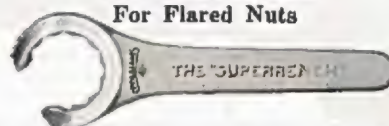
Drop-forged from special Chrome-Alloy steel and heat-treated. Gray satin finish, faces polished. Length, 9-1/2".

For Refrigeration "Supersocket" Set see page 65

WILLIAMS' "SUPERRENCHES" (Chrome-Molybdenum)

OPEN-BOX PATTERN

For Flared Nuts



Thin heads and narrow jaws permit easy operation in close quarters. 12-point openings turn the nut readily where "Superrenches" can be swung only 30°. Gripping power is more than double that of ordinary wrenches—will not slip.

Drop-forged from Chrome-Molybdenum steel, heat-treated and chrome-plated, heads buffed.

| No. | Nominal Opening | Thickness Heads | Extreme Length | List Price, Each | No. |
|------|--------------------|--------------------|-------------------|---------------------|------|
| 8924 | 3/4 | 1/4 | 6-1/2 | \$1.15 | 8924 |
| 8928 | 7/8 | 1/4 | 6-1/2 | 1.15 | 8928 |
| 8930 | 15/16 | 1/4 | 6-1/2 | 1.15 | 8930 |
| 8932 | 1 | 1/4 | 6-1/2 | 1.15 | 8932 |
| 8934 | 1-1/16 | 1/4 | 6-1/2 | 1.15 | 8934 |
| 8936 | 1-1/8 | 1/4 | 6-1/2 | 1.15 | 8936 |

WILLIAMS' "SUPERIOR" SOCKET WRENCHES (Carbon Steel)

Slim, light design, forged from a special grade of strong, tough carbon steel. Heat-treated and finished in black enamel, baked on; face of head, polished bright.



Many other sizes, both Square and Hex openings, in stock. Modified lengths to order in reasonable quantities.

SQUARE OPENINGS

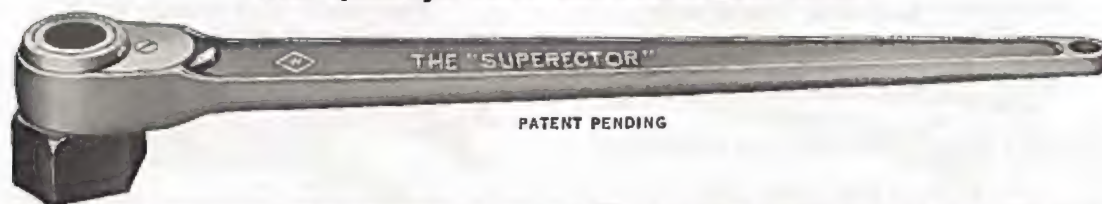
| No. | Nom- inal Openg. | For Set Screw | For Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGLR. Nut | Diam. of Head | List Price, Each |
|-------|------------------------|---------------------|---------------------|--|-----------------------------|---------------------|------------------------|
| 9601H | 1/8 | 1/8 | ..... | ..... | ..... | 5/16 | \$.70 |
| 9611H | 3/16 | 3/16 | ..... | ..... | ..... | 1/2 | .80 |
| 961J | 1/4 | 1/4 | ..... | ..... | ..... | 1/2 | .80 |
| 9621H | 5/16 | 5/16 | ..... | ..... | ..... | 5/8 | .88 |
| 9631H | 3/8 | 3/8 | 1/4 | ..... | ..... | 11/16 | .98 |
| 9651H | 7/16 | 7/16 | 5/16 | ..... | 1/4 | 7/8 | 1.16 |
| 9661H | 1/2 | 1/2 | 3/8 | ..... | ..... | 1 | 1.26 |
| 9671H | 9/16 | 9/16 | 7/16 | ..... | 5/16 | 1-1/8 | 1.42 |
| 968H | 5/8 | 5/8 | 1/2 | ..... | 3/8 | 1-1/4 | 1.54 |

HEXAGON OPENINGS

| No. | Nom- inal Openg. | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGLR. Nut | Diam. of Head | List Price, Each |
|------|------------------------|--|-------------------------------------|--|-----------------------------|---------------------|------------------------|
| 961A | 5/16 | 1/8 | 1/8 | ..... | ..... | 1/2 | \$.80 |
| 962D | 3/8 | ..... | 3/16 | ..... | ..... | 5/8 | .88 |
| 963A | 13/32 | ..... | 3/16 | ..... | ..... | 11/16 | .98 |
| 963D | 7/16 | ..... | 1/4 | 1/4 | 1/4 | 11/16 | .98 |
| 964A | 1/2 | ..... | 5/16 | 5/16 | ..... | 3/4 | 1.04 |
| 965D | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 7/8 | 1.16 |
| 965A | 19/32 | ..... | 6/16 | ..... | ..... | 7/8 | 1.16 |
| 966D | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 1 | 1.26 |

For Refrigeration Wheel Puller see page 73

**WILLIAMS' "SUPERECTOR"
REVERSIBLE RATCHET WRENCHES**
With Quadruple Pawls and Drop-Forged Handle



Williams' "Superector" Ratchet Wrenches are built for rapid operation in the most severe service such as bridge, structural and other work requiring fast, dependable tools of rugged strength. They are instantly reversible in action. Three sizes of mechanism — E1, E2 and E3 — in five long, slim but powerful handles provide ample leverage for the hardest jobs.



HEX SOCKETS

SOCKETS have hole extending clear through their center so that nuts may be turned all the way down on any length of bolt. They are in three groups—E1, E2 and E3—to fit corresponding wrench handles, as shown in table below. Sockets in one group are not interchangeable with those in another group. All are heat-treated for maximum tough strength.

Whitworth Std. sizes start on page 124.



SQUARE SOCKETS

Only Williams' "SUPERECTOR" offers all the following advantages:—

QUADRUPLE PAWLS. Instead of the usual single pawl, bearing against one gear tooth, the "Superector" provides increased bearing and strength by 2 pawls engaging 2 teeth for both ON and OFF rotation of nuts. All 4 pawls are of hardened tool steel, so designed as to provide pure crushing action on the pawls—the sturdiest construction possible, with no "back-lash."

HANDLE, or Wrench proper, is drop-forged—not cast—in order to utilize the extra strength afforded by the pawls.

GEAR TEETH. The "Superector" is the only line of wrenches of this type with 20 teeth in all socket gears, instead of the usual 16 teeth. Con-

sequently, all wrenches will rotate nuts with only an 18° swing of the wrench as against 22-1/2°.

SHIFTER-LEVER, when in neutral, completely disengages all pawls for easy insertion and removal of the Socket. A flip of the lever reverses the action of the wrench.

SOCKET RETAINING COLLAR has a projection on its inner surface which registers easily with a corresponding slot in the neck of the Socket. No fumbling for set screw "spots" when engaging the headless, slotted socket screws.

COVER PLATE, securely seated in the wrench head, is fastened by one screw, fully enclosing the mechanism and permitting easy removal.

FINISH. Wrenches and Sockets are finished in baked light gray enamel.

When ordering, always specify Wrenches and Sockets by number.

| WRENCHES | | | SOCKETS ONLY—Hex and Square | | | | | | | |
|--|-----------------------------|----------------------------------|------------------------------------|------------|---------------|-------------------------------|-------------------------------|-----------------------|--------------------------------|--|
| No. | Length, from center of Head | LIST Wrench Only, without Socket | Nominal Opening, Size Across Flats | Number | | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGLR. Nut | LIST Hex or Square Socket Only | |
| | | | | Hex Socket | Square Socket | Hex & Sqr. | Hex Only | Hex & Sqr. | | |
| E1 SOCKETS below fit E1-24 and E1-36 Wrenches ONLY | | | | | | | | | | |
| E1-24 | 24 | \$12.60 | 1- 1/16 | E1-617 | E1-416 | 5/8 | 3/4 | 5/8 | \$4.85 | |
| | | | 1- 1/8 | E1-618 | E1-418 | | | 3/4 | 4.85 | |
| E1-36 | 36 | 19.80 | 1- 1/4 | E1-620 | E1-420 | 3/4 | 7/8 | | 5.00 | |
| | | | 1- 5/16 | E1-621 | E1-421 | | | 7/8 | 5.10 | |
| | | | 1- 7/16 | E1-623 | E1-423 | 7/8 | 1 | | 5.20 | |
| | | | 1- 1/2 | E1-624 | E1-424 | | | 1 | 5.30 | |
| | | | 1- 5/8 | E1-626 | E1-426 | 1 | 1-1/8 | | 5.40 | |
| | | | 1-11/16 | E1-627 | | | | 1-1/8 | 5.50 | |
| | | | 1- 3/4 | E1-628 | | | | | 5.60 | |
| | | | 1-13/16 | E1-629 | E1-429 | 1-1/8 | 1-1/4 | | 5.65 | |
| | | | 1- 7/8 | E1-630 | E1-430 | | | 1-1/4 | 5.75 | |
| | | | 2 | E1-632 | E1-432 | 1-1/4 | 1-3/8 | | 5.90 | |
| | | | 2- 1/16 | E1-633 | | | | 1-3/8 | 6.00 | |
| | | | 2- 3/16 | E1-635 | E1-435 | 1-3/8 | 1-1/2 | | 6.20 | |
| | | | 2- 1/4 | E1-636 | E1-436 | | | 1-1/2 | 6.40 | |
| E2 SOCKETS below fit E2-36 and E2-48 Wrenches ONLY | | | | | | | | | | |
| E2-36 | 36 | \$25.20 | 2- 3/16 | E2-632 | E2-432 | 1-1/4 | 1-3/8 | | \$ 9.70 | |
| E2-48 | 48 | 32.40 | 2- 3/8 | E2-635 | E2-435 | 1-3/8 | 1-1/2 | | 10.00 | |
| | | | 2- 9/16 | E2-638 | E2-438 | 1-1/2 | | | 10.40 | |
| | | | 2- 3/4 | E2-641 | E2-441 | 1-5/8 | | | 10.80 | |
| | | | 2-15/16 | E2-644 | E2-444 | 1-3/4 | | | 11.30 | |
| | | | 3- 1/8 | E2-647 | E2-447 | 1-7/8 | | | 11.85 | |
| | | | 3- 1/2 | E2-650 | E2-450 | 2 | | | 12.40 | |
| E3 SOCKETS below fit E3-48 Wrenches ONLY | | | | | | | | | | |
| E3-48 | 53 | \$50.40 | 3- 1/8 | E3-650 | E3-450 | 2 | | | \$20.10 | |
| | | | 3- 1/2 | E3-656 | E3-456 | 2-1/4 | | | 20.80 | |
| | | | 3- 7/8 | E3-662 | E3-462 | 2-1/2 | | | 21.60 | |
| | | | 4- 1/4 | E3-668 | E3-468 | 2-3/4 | | | 22.55 | |
| | | | 4- 5/8 | E3-674 | E3-474 | 3 | | | 23.65 | |

Weights, page K.

★ REGISTERED TRADE MARK

**"SUPERECTOR" SET
No. E1-12**



List Price, Complete—\$71.25
12 Pieces

In Wooden Box, 36 x 6 x 5-1/2"

"Superector" Wrench E1-24
and 11 Sockets:

- 7 Hex — 1-1/16, 1-1/4, 1-7/16, 1-5/8, 1-13/16, 2 and 2-3/16".
- 4 Square—1-1/16, 1-1/4, 1-7/16 and 1-5/8 inches.

WILLIAMS' + "SUPERSOCKET" WRENCHES

Williams' "Supersocket" Wrenches are strong, dependable tools in which Williams' high standard of quality has been maintained throughout. Five separate and distinct patterns of Sockets, with a full assortment of Handles and Parts for each, cover practically all industrial needs:—

MIDGET Electrical—1/4" Square Drive. Slim, Straight Wall Sockets for all delicate adjustments. Openings, 3/16 to 7/16"—4, 6, 8 and 12-points.

BANTAM—3/8" Square Drive. Light, but strong Straight Wall Sockets with thin walls for use in close quarters. 12-point openings, 1/4 to 3/4".

STANDARD—1/2" Square Drive, includes Sockets with 12-point and Square openings up to 1-1/4" for general service.

HEAVY DUTY—3/4" Square Drive. Sockets have 12-point openings 7/8 to 2-1/4". Made for harder service than the ordinary run of work.

EXTRA HEAVY DUTY—1" Square Drive. Sockets have 12-point openings 1-1/16 to 2-3/4". Ruggedly designed for the toughest kind of service.

"SUPERSOCKET" NUMBERING SYSTEM

This system, developed by J. H. Williams & Co., has proven so simple in application that it has met general approval. Its description follows:—

The five Patterns of "Supersockets" are called—

| | | | | |
|----------|----------|------------|--------------|--------------------|
| "Midget" | "Bantam" | "Standard" | "Heavy Duty" | "Extra Heavy Duty" |
|----------|----------|------------|--------------|--------------------|

The symbol for each pattern is:

| | | | | |
|----|---|---|---|----|
| NM | B | S | H | NX |
|----|---|---|---|----|

The drive for each pattern is:

| | | | | |
|-------------|-------------|-------------|-------------|-----------|
| 1/4" Square | 3/8" Square | 1/2" Square | 3/4" Square | 1" Square |
|-------------|-------------|-------------|-------------|-----------|

SOCKET NUMBERS

1. Prefix letter in the piece number indicates the Pattern and hence the size of drive. Thus, No. S-1214 indicates Standard Pattern, 1/2" square drive.

2. The first figure, or the first two figures in the piece number indicate the number of "points" in the opening of the "Supersocket"—i.e., 4, 6, 8 or 12 points. The last two figures in the piece number indicate the nominal socket opening in 32nds of an inch. Thus, No. B-1214 indicates Bantam Pattern, 3/8" square drive, 12-point 14/32, or 7/16" opening.

3. Variations: Standard Pattern Sockets are Taper Nose, or Straight Wall in style. The prefix ST indicates Straight Wall. Similarly, SD as prefixed to the piece number means Extra Deep Standard sockets.

HANDLES and PARTS NUMBERS

1. Prefix letter in the piece number indicates pattern and hence size of drive, similarly to Sockets, above.

2. Figures indicate the particular Part. The same figures are used in all other Patterns of the same style Part. For instance:—

| | | | | | |
|------------------|--------|--------|----------|------------|------------------|
| Sliding T Handle | Midget | Bantam | Standard | Heavy Duty | Extra Heavy Duty |
| | NM-20A | B-20A | S-20C | H-20A | NX-20B |

3. The suffix letter denotes some variation in form. The "C" in No. S-20C, for instance, indicates the handle is offset, not straight, as are NM-20A, B-20A, etc.

✦ REGISTERED TRADE MARK

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

WILLIAMS' "SUPERSOCKET" WRENCHES
Chrome-plated over Nickel

MIDGET PATTERN—1/4" SQUARE DRIVE
(Previously 9/32" Sq. Drive—Now Obsolete)

SOCKETS

Williams' Midget Electrical Sockets are unequalled in cramped quarters and for delicate adjustments. Invaluable time-savers on Generators, Wiring-connections, Radios, etc.

Their thin, straight walls enable them to operate readily on troublesome little jobs where no ordinary socket or wrench could even get in and grip the nut. Furnished with hex and square openings as listed.

Accurately made from Chrome-Molybdenum steel and heat-treated in electric furnaces. Uniformity of product and tough, dependable strength are assured.

All Sockets packed 6 in a box.



With Hex,
12-Point and
Square Openings

| Nominal Opening | SOCKETS FOR HEX NUTS AND CAP SCREWS | | | | | | | SQUARE | | | |
|--------------------|-------------------------------------|---------------|---------------------|---------------|---|---|---|--|-------------------------|---------------|--------------------|
| | Hexagon Sockets | | 12-Point Sockets | | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. Machine Screw Hex Nut | Square Socket No. | List Price | Nominal Opening |
| | No. | List Price | No. | List Price | | | | | | | |
| 3/16 | NM-606 | \$.45 | | | | | | No. 2 & 3 | NM-406 | \$.45 | 3/16 |
| 7/32 | NM-607 | .45 | | | | | | | NM-407 | .45 | 7/32 |
| 1/4 | NM-608 | .45 | | | | | | 4 | NM-408 | .45 | 1/4 |
| 9/32 | NM-609 | .45 | | | | | | | | | |
| 5/16 | | | NM-1210 | \$.45 | 1/8 | 1/8 | | 5 & 6 | †NM-810 | .45 | 5/16 |
| 11/32 | | | NM-1211 | .45 | | | | 8 | | | |
| 3/8 | | | NM-1212 | .45 | | 3/16 | | 10 | †NM-812 | .45 | 3/8 |
| 7/16 | | | NM-1214 | .45 | | 1/4 | 1/4 | 12 & 1/4 | | | |

† 8-Point opening.

HANDLES and PARTS



| No. | Piece | List Price, Each |
|--------|--|------------------|
| NM-20A | Sliding T Handle—4-1/2" long. | \$1.02 |
| NM-42 | Flex Handle only—5-3/4" long; flexible head, knurled grip, crosshole for use with Sliding Bar. | 1.40 |
| NM-42B | Sliding Bar, 1/4" x 4-1/2", for NM-42. | .25 |
| NM-51 | Reversible Ratchet—4-1/2" long. 24 teeth in Ratchet-gear instead of usual 14 to 20. Turning shift-lever reverses action instantly. | 4.00 |
| NM-102 | Extension—2" long. Otherwise like NM-115. | .85 |
| NM-110 | Extension-Driver has lockable-revolving, knurled handle with 1/4" square drive-opening in end. May be used either as an Extension with handy revolving grip for spinning nuts, or as a Driver with handle locked. A slight turn of the handle locks and unlocks same instantly. 5-3/8" long. | 1.44 |
| NM-115 | Extension—6" long. | 1.08 |
| MM-130 | Adapter—1/4" square male and 9/32" square female. Adapts Sockets with 1/4" square drive-openings to Handles with 9/32" square drive-plug. | .90 |
| MM-131 | Adapter—9/32" square male and 1/4" square female. Adapts Sockets with 9/32" square drive-openings to Handles with 1/4" square drive-plug. | .90 |
| MM-150 | Plug Adapter—1" long; 1/4" sq. and 9/32" sq. male. | .60 |



NM-110 NM-20A

For Refrigeration Set, see page 65; Hollow-Screw Set, page 69.

NM-42B

Weights, pages J and K.

★ REGISTERED TRADE MARK

10-42

SUPERIOR DROP-FORGINGS WILLIAMS AND DROP-FORGED TOOLS

WILLIAMS' MIDGET WRENCH SETS

Chrome-plated over Nickel

**1/4" Square Drive Sockets*

Any Williams' Midget Set is a handful of helpfulness on those fussy, troublesome little jobs that ordinary wrenches can't handle. These various combinations of Midget "Supersockets," "Superratches" and "Superpliers" are ideal for all delicate adjustments on generators, wiring-connections, radios, etc. Unequalled in cramped quarters. Forged Chrome-Molybdenum steel, heat-treated, chrome-finished.

"SUPERSOCKET" ELECTRICAL SET No. 1269PR

| | |
|---|---------|
| LIST PRICE, Complete — | |
| In Strong Steel Case, 5-1/2 x 3 x 1" | |
| Set 1269PR—complete as illustrated | \$12.90 |
| Set 1269P —without "Superratchet" | 8.80 |
| Set 1269 —without "Superplier" and "Superratchet" | 6.95 |
| Set 1269PR will be furnished, unless otherwise specified. | |

Contents of Set 1269PR

8 Midget "Supersockets"—4 with Hex openings 3/16, 7/32, 1/4 and 9/32"; 4 with 12-point openings 5/16, 11/32, 3/8 and 7/16". Reversible "Superratchet," 4-1/2" long; Sliding T Handle, 4-1/2" long. Extension-Driver, 5-3/8", with revolving, lockable grip. Midget "Superpliers," 4-1/2".



NEW

COMBINATION ELECTRICAL SET No. 1285P



Contents

8 Midget "Supersockets"—4 Hex openings, 3/16, 7/32, 1/4 and 9/32"; 4 twelve-point openings 5/16, 11/32, 3/8, 7/16". Sliding T Handle, 4-1/2" long; Extension-Driver with revolving, lockable grip, 5-3/8". 4 Midget "Superratches" (3 to 3-1/2" long)—openings 13/64, 7/32, 15/64, 1/4, 9/32, 5/16, 11/32 and 3/8". Midget "Superplier", 4-1/2" long, see page 71.

LIST PRICE, Complete —

| | |
|--|---------|
| In Strong Steel Case, 5-1/2 x 3 x 1" | |
| Set 1285P—complete as illustrated | \$11.55 |
| Set 1285 —without "Superplier" | 9.70 |
| Set 1285P will be furnished, unless otherwise specified. | |

UNIVERSAL ELECTRICAL SET No. 1286PR

Contents

13 Midget "Supersockets"—4 Hex openings, 3/16, 7/32, 1/4 and 9/32"; 4 twelve-point openings 5/16, 11/32, 3/8, 7/16"; 3 square openings, 3/16, 7/32, and 1/4"; 2 eight-point openings, 5/16 and 3/8". Reversible "Superratchet", 4-1/2" long; Sliding T Handle, 4-1/2"; Extension-Driver with revolving, lockable grip, 5-3/8". 4 Midget "Superratches" (3 to 3-1/2" long)—openings 13/64, 7/32, 15/64, 1/4, 9/32, 5/16, 11/32 and 3/8". Midget "Superplier", 4-1/2".

LIST PRICE, Complete —

| | |
|--|---------|
| In Strong Steel Case, 6-3/4 x 4-1/4 x 1" | |
| Set 1286PR—complete as illustrated | \$18.50 |



NEW

COMBINATION ELECTRICAL SET No. 1291P



LIST PRICE, Complete —

| | |
|--|---------|
| In Strong Steel Case, 5-1/2 x 3 x 1" | |
| Set 1291P—with "Superplier" No. 1519 | \$15.85 |
| Set 1291 —without "Superplier" | 14.00 |
| Set 1291P will be furnished, unless otherwise specified. | |

Contents of Set 1291P

8 Midget "Supersockets"—4 Hex openings, 3/16, 7/32, 1/4 and 9/32"; 4 twelve-point openings, 5/16, 11/32, 3/8, 7/16".

Sliding T Handle, 4-1/2" long; Extension-Driver with revolving, lockable grip, 5-3/8" long.

10 Midget "Superratches" (3 to 4-1/2" long)—openings 3/16, 13/64, 7/32, 15/64, 1/4, 9/32, 5/16, 11/32, 3/8 and 7/16".

Midget "Superplier", 4-1/2", page 71.

*Previously 9/32" Square Drive—Now Obsolete

UNIVERSAL ELECTRICAL SET No. 1292PR



LIST PRICE, Complete —

| | |
|--|---------|
| In Strong Steel Case, 6-3/4 x 4-1/4 x 1" | |
| Set 1292PR—complete as illustrated | \$23.80 |

Contents of Set 1292PR

13 Midget "Supersockets"—4 Hex openings, 3/16, 7/32, 1/4 and 9/32"; 4 twelve-point openings, 5/16, 11/32, 3/8, 7/16"; 3 square openings, 3/16, 7/32 and 1/4"; 2 eight-point openings, 5/16 and 3/8".

Reversible "Superratchet", 4-1/2" long. Sliding T Handle, 4-1/2" long; Extension-Driver with revolving, lockable grip, 5-3/8" long; Extension 6".

10 Midget "Superratches" (3 to 4-1/2" long)—openings 3/16, 13/64, 7/32, 15/64, 1/4, 9/32, 5/16, 11/32, 3/8 and 7/16".

Midget "Superplier", 4-1/2", page 71.

NOTICE — National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCHES

Chrome-plated over Nickel

BANTAM PATTERN

3/8" Square Drive

SOCKETS

12-Point
Regular



Extra Deep
12-Point



Universal
12-Point



Extra Deep
8-Point

Williams' "Bantam" Sockets with thin walls get in and service "buried" nuts in close and awkward corners. Furnished in four styles; Regular, Extra Deep and Universal, all with 12-point (hex) openings; also, Extra Deep with 8-point (square) openings. All Universal Sockets have an operating range of approximately 130° and are fitted with spring tension to maintain the operating angle desired.

Made from a superior grade of high tensile steel—Chrome-Alloy—and heat-treated in electric furnaces for maximum toughness and strength. All Sockets packed 6 in a box.

| Size Open- ing | 12-POINT OPENINGS FOR HEX NUTS, ETC | | | | | | | | | | 8-POINT OPENINGS | | |
|----------------------|-------------------------------------|----|-------------|------|-----------|------|-----------------------------------|-------------------------------|-------------------------------|-----------------------|----------------------------|--------|-------|
| | Straight Wall Sockets | | | | | | | | | | *Extra Deep SQUARE Sockets | | |
| | Regular | | †Extra Deep | | Universal | | Amer. Std. HEAVY Hex Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGLR. Nut | Mach. Screw | No. | List |
| 1/4 | B-608 | 72 | | | | | | | | | No. 4 | | 1/4 |
| 5/16 | B-1210 | 72 | | | | | 1/8 | 1/8 | | | 5 & 6 | | 5/16 |
| 11/32 | B-1211 | 72 | | | | | | | | | 8 | | 11/32 |
| 3/8 | B-1212 | 72 | | | | | | 3/16 | | | 10 | | 3/8 |
| 7/16 | B-1214 | 72 | BD-1214 | 77 | BU-1214 | 2.30 | | 1/4 | 1/4 | 1/4 | 12-1/4 | BD-814 | 85 |
| 1/2 | B-1216 | 72 | BD-1216 | 77 | BU-1216 | 2.30 | 1/4 | 5/16 | 5/16 | | | BD-816 | 85 |
| 9/16 | B-1218 | 72 | BD-1218 | 77 | BU-1218 | 2.55 | | 3/8 | 3/8 | 5/16 | 5/16 | BD-818 | 92 |
| 5/8 | B-1220 | 72 | BD-1220 | 77 | BU-1220 | 2.55 | | 7/16 | 7/16 | 3/8 | 3/8 | BD-820 | 92 |
| 11/16 | B-1222 | 84 | BD-1222 | 90 | | | 3/8 | | | | | | 11/16 |
| 3/4 | B-1224 | 84 | BD-1224 | 1.00 | | | 1/2 | 1/2 | 7/16 | | | | 3/4 |

†Single Hex; taper nose

‡2 to 2-1/2" long.

*1-1/2" long.

HANDLES AND PARTS

| Patented | | | | B-50 | | | |
|----------|--|--------|--|------|--|--|--|
| No. | Piece | List | | | | | |
| F-15 | Speeder—16-1/2" long; Knurled revolving grip. | \$2.10 | | | | | |
| B-20A | Sliding T Handle—6-1/2" long | 1.35 | | | | | |
| B-30 | Offset Handle—7-3/4" long; Knurled grip | 1.50 | | | | | |
| B-40 | Flex Handle—8-1/2" long; flexible head. Knurled grip with 3/8" square drive hole in end—may be used as Extension. | 2.70 | | | | | |
| B-42 | Flex Handle—8-1/2" long; flexible head, knurled grip; crosshole for Sliding Bar. | 2.70 | | | | | |
| B-42B | Sliding Bar, 5/16" rd x 8", for B-42 | .40 | | | | | |
| B-50 | Drop-Forged Ratchet—6-1/2" long; complete with No. B-150 Plug-Connector. | 3.60 | | | | | |
| B-50A | Ratchet—Same as B-50 above, but with 1/4" square drive-opening in ratchet wheel and 1/4" square hole near end of handle, for Refrigeration Service. Without Plug-Connector. | 3.60 | | | | | |
| B-50B | Ratchet—Same as B-50, but with 5/16" square drive-opening. No Plug-Connector. | 3.30 | | | | | |
| B-51 | Reversible Ratchet—6-1/2" long. 24 teeth in ratchet-gear instead of usual 14 or 16. Turning shift-lever reverses action instantly. | 4.50 | | | | | |
| B-51A | Reversible Ratchet for Refrigeration Service—same as B-51, but has both 3/8" sq. male and 1/4" sq. female ratchet drive. Also, has 3/16" and 1/4" sq. drive holes in handle end. | 4.50 | | | | | |
| B-108 | Extension Bar—3" long. | 1.08 | | | | | |
| B-110 | Extension Bar—5-1/2" long | 1.08 | | | | | |
| B-115 | Extension Bar—10-1/2" long | 1.20 | | | | | |
| BM-130 | Adapter—3/8" sq. female and 9/32" sq. male | .90 | | | | | |
| BS-130 | Adapter—3/8" sq. female and 1/2" sq. male. | 1.02 | | | | | |
| BS-131 | Adapter—3/8" sq. male and 1/2" sq. female. | 1.02 | | | | | |
| B-140 | Universal Joint—approx. operating range 140° | 2.46 | | | | | |
| B-150 | Ratchet Plug-Connector | .54 | | | | | |

Refrigeration Set, page 66; Hollow-Screw Wrench Set, page 69.

♦ REGISTERED TRADE MARK

*Discontinued—will supply until stock is exhausted.

Weights, pages J and K.

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCH SETS

Chrome-plated over Nickel

BANTAM PATTERN—3/8" SQUARE DRIVE

FOR AVIATION AND GENERAL SERVICE

SET No. 6-B

SET No. 7-A



SET No. 5
LIST PRICE — \$24.40
15 Pieces —

7 Sockets and 8 Attachments
Same Assortment as Set No. 6,
but with 7 instead of 10 Sockets
and without B-108.
In Strong Steel Case, 17x4x1-1/4"
Total Weight, 6-1/2 lbs.

SET No. 6-B
LIST PRICE — \$25.50
16 Pieces —

7 Sockets and 9 Attachments
In Strong Steel Case, 17x4x1-1/2"
Total Weight, 7-1/4 lbs.

SET No. 7-A
LIST PRICE — \$43.95
30 Pieces —
21 Sockets and 9 Attachments
In Strong Steel Case,
17x4-1/2x1-7/8"
Total Weight, 9-1/2 lbs.

†NOTE:—Ratchet No. B-50 (page 50) may be substituted for B-51 in Sets Nos. 5, 6-B, and 7-A, at a reduction of \$.90 in List Price of each Set.

SET No. 5

This Set supplies a convenient and economical assortment of 7 "Bantam" Regular Thin Wall "Supersockets" and 8 Accessories for the general run of small work. A minimum of tools provides maximum performance. See table for details.

SET No. 6-B

A practical assortment of tools, providing very efficient aviation service, etc.

Contains the same 7 Regular Thin Wall "Supersockets" and 9 Drivers as Set No. 7-A. Although the general assortment of sockets is not so complete as in the latter, Set No. 6-B provides a wide range of combinations for a great variety of service. See table for details.

SET No. 7-A

This Set is especially designed for aviation, and general use, the large assortment of sockets providing most comprehensive service.

It contains 21 "Bantam" Supersockets as follows: 7 Regular Thin Wall, 12-point openings 3/8 to 3/4"; 4 Universal, 12-point openings 7/16 to 5/8"; 10 Extra Deep, 6 with 12-point openings 7/16 to 3/4" and 4 with 8-point openings 7/16 to 5/8". Covers all popular Nuts and Cap Screws, U. S., S.A.E. and American Standards.

Also, 9 strong, slim Drivers, including Universal Joint; work easily in close quarters. See table for details.

✦ REGISTERED TRADE MARK

CONTENTS OF SETS Thin Wall Sockets

| Nominal Opening | Socket No. | LIST PRICE | | |
|--|---------------|-----------------|-------------------|-------------------|
| | | In Set No. 5 | In Set No. 6-B | In Set No. 7-A |
| REGULAR — 12-POINT | | | | |
| 3/8 | B-1212 | \$.72 | \$.72 | \$.72 |
| 7/16 | B-1214 | .72 | .72 | .72 |
| 1/2 | B-1216 | .72 | .72 | .72 |
| 9/16 | B-1218 | .72 | .72 | .72 |
| 5/8 | B-1220 | .72 | .72 | .72 |
| 11/16 | B-1222 | .84 | .84 | .84 |
| 3/4 | B-1224 | .84 | .84 | .84 |
| EXTRA DEEP — 12-POINT — 2 to 2-1/2" Long | | | | |
| 7/16 | BD-1214 | ..... | ..... | .77 |
| 1/2 | BD-1216 | ..... | ..... | .77 |
| 9/16 | BD-1218 | ..... | ..... | .77 |
| 5/8 | BD-1220 | ..... | ..... | .77 |
| 11/16 | BD-1222 | ..... | ..... | .90 |
| 3/4 | BD-1224 | ..... | ..... | 1.00 |
| EXTRA DEEP — 8-POINT — 1-1/2" Long | | | | |
| 7/16 | BD-814 | ..... | ..... | .85 |
| 1/2 | BD-816 | ..... | ..... | .85 |
| 9/16 | BD-818 | ..... | ..... | .92 |
| 5/8 | BD-820 | ..... | ..... | .92 |
| UNIVERSAL — 12-POINT | | | | |
| 7/16 | BU-1214 | ..... | ..... | 2.30 |
| 1/2 | BU-1216 | ..... | ..... | 2.30 |
| 9/16 | BU-1218 | ..... | ..... | 2.55 |
| 5/8 | BU-1220 | ..... | ..... | 2.55 |

Handles and Parts

| No. | In Sets Nos. *5, 6-B and 7-A | List Price |
|--------|---|------------|
| F-15 | Speeder—16-1/2" long; knurled, revolving grip.. | \$2.10 |
| B-20A | Sliding T Handle—6-1/2" long..... | 1.35 |
| B-30 | Offset Handle—7-3/4" long; knurled grip..... | 1.50 |
| B-40 | Flex Handle—8-1/2" long; flexible head..... | 2.70 |
| B-51 | Reversible "Superratchet"—0-1/2" long..... | 4.50 |
| *B-108 | Extension Bar—3" long..... | 1.08 |
| B-110 | Extension Bar—5-1/2" long..... | 1.08 |
| B-115 | Extension Bar—10-1/2" long..... | 1.20 |
| B-140 | Universal Joint—approx. operating range 140°.. | 2.46 |

†See "Note" above. *No. B-108 omitted from Set 5.

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**
SUPERIOR DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCHES

Chrome-plated over Nickel

STANDARD PATTERN — 1/2" Square Drive

REGULAR SOCKETS



Williams' Standard Sockets, with 12-point and Square openings as listed below, have thin walls for work in close places.

Made from superior high tensile steel—Chrome-Alloy—and heat-treated in electric furnaces. All sockets packed 6 in a box.

To drive "Standard" Sockets with "Bantam" Handles, use Adapter BS-130, pages 50 and 64.

Whitworth Standard and Metric sizes also; details on request.

| Nominal Opening | 12-POINT OPENINGS FOR HEX NUTS | | | | | | SQUARE OPENINGS | | |
|-----------------|--------------------------------|-----|--------|--|---|--|---------------------------------------|----------------|-----------------|
| | Straight Wall 12-point Sockets | No. | List | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screws; Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Square Sockets | Nominal Opening |
| | | | | | | | | | |
| 7/16 | ST-1214 | | \$.72 | | 1/4 | 1/4 | 1/4 | S-410 | \$.72 |
| 1/2 | ST-1216 | | .72 | 1/4 | 5/16 | 5/16 | 5/16 | S-412 | .72 |
| 9/16 | ST-1218 | | .72 | | 3/8 | 3/8 | 3/8 | S-414 | .72 |
| 19/32 | ST-1219 | | .72 | 5/16 | | | | S-416 | .72 |
| 5/8 | ST-1220 | | .72 | | 7/16 | 7/16 | 3/8 | S-418 | .72 |
| * 21/32 | ST-1221 | | .72 | | | | | | |
| 11/16 | ST-1222 | | .84 | 3/8 | | | | S-420 | .72 |
| 3/4 | ST-1224 | | .90 | | 1/2 | 1/2 | 7/16 | | |
| 25/32 | ST-1225 | | .90 | 7/16 | | | | S-422 | .84 |
| 13/16 | ST-1226 | | .90 | | 9/16 | | 1/2 | S-424 | .90 |
| 7/8 | ST-1228 | | .90 | 1/2 | 5/8 | 9/16 | 9/16 | | |
| 15/16 | ST-1230 | | 1.08 | | | 5/8 | | | |
| 31/32 | ST-1231 | | 1.08 | 9/16 | | | | S-428 | .90 |
| 1 | ST-1232 | | 1.08 | | 3/4 | | 5/8 | | |
| 1-1/16 | S-1234 | | 1.20 | 5/8 | | 3/4 | | | |
| 1-1/8 | S-1236 | | 1.32 | | 7/8 | | 3/4 | S-432 | 1.20 |
| 1-3/16 | S-1238 | | 1.38 | | | | | | |
| 1-1/4 | S-1240 | | 1.44 | 3/4 | | 7/8 | | | |

*Discontinued—will supply until stock is exhausted.

STANDARD EXTRA DEEP 12-POINT SOCKETS

For "Buried" Nuts

Especially designed for use where the nuts lie some distance from the outer end of the threaded stem. Long and slim with thin walls for use in cramped places. Their 12-point openings permit operation in close quarters where the handle can be swung only 30°.

Carefully made from high tensile steel—Chrome-Molybdenum—and heat-treated. Packed 3 in a box.

Whitworth Standard and Metric sizes also; details on request.



Cross Hole For Bar

| Twelve Point Opening | EXTRA DEEP Sockets | | | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt |
|----------------------|--------------------|--------|--------|--|--|--|-----------------------------------|
| | No. | Length | List | | | | |
| 1/2 | SD-1216 | 3-1/4 | \$1.14 | 1/4 | 5/16 | 5/16 | |
| 9/16 | SD-1218 | 3-1/4 | 1.14 | | 3/8 | 3/8 | 5/16 |
| 5/8 | SD-1220 | 3-1/4 | 1.26 | | 7/16 | 7/16 | 3/8 |
| 11/16 | SD-1222 | 3-1/4 | 1.26 | 3/8 | | | |
| 3/4 | SD-1224 | 3-1/4 | 1.26 | | 1/2 | 1/2 | 7/16 |
| 13/16 | SD-1226 | 3-1/4 | 1.26 | | 9/16 | | 1/2 |
| 7/8 | SD-1228 | 3-1/4 | 1.26 | 1/2 | 5/8 | 9/16 | 9/16 |
| 15/16 | SD-1230 | 3-1/4 | 1.38 | | | 5/8 | |
| 1 | SD-1232 | 3-1/4 | 1.50 | | 3/4 | | 5/8 |
| 1-1/8 | SD-1236 | 3-1/4 | 1.68 | | 7/8 | | 3/4 |

Weights, page K.

★ REGISTERED TRADE MARK

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

WILLIAMS' "SUPERSOCKET" WRENCHES

Chrome-plated over Nickel

STANDARD HANDLES and PARTS—1/2" SQUARE DRIVE



| No. | PIECE | LIST PRICE | No. |
|--------|---|------------|--------|
| S-10P | Speeder—12" long, with plastic revolving grip..... | \$ 2.70 | S-10P |
| S-15P | Speeder—17-1/2" long, with plastic revolving grip..... | 2.70 | S-15P |
| S-20A | Sliding T Handle—11" long..... | 2.10 | S-20A |
| S-40 | Flex Handle—12" long; flexible head. Knurled grip with 1/2" square drive hole in end—may be used as Extension..... | 3.90 | S-40 |
| S-41 | Flex Handle—17-1/4"—flexible head. Knurled grip—1/2" square drive hole in end for use as Extension; 1/2" round cross hole for Bar..... | 4.50 | S-41 |
| S-42 | Flex Handle only—14-1/2". Flexible head, knurled grip, cross hole for Bar..... | 3.90 | S-42 |
| S-42B | Sliding Bar, 7/16" x 9", for Flex Handle S-42..... | .60 | S-42B |
| S-50 | Ratchet—10" long, complete with Locked-in Plug Connector..... | 4.50 | S-50 |
| S-51 | Reversible Ratchet—10-1/2" long. 24 teeth in Ratchet-gear instead of usual 16. Turning shift-lever reverses action instantly..... | 6.75 | S-51 |
| S-57 | Torque "Measurrench"—19-1/2" long; indicates R.H. Torque. Has torque-indicating signal. Action reverses instantly for general use. See page 70..... | 26.00 | S-57 |
| S-110P | Extension Bar—5-1/2" long..... | 1.20 | S-110P |
| S-115P | Extension Bar—10-1/2" long..... | 1.65 | S-115P |
| SH-130 | Adapter—1/2" square female and 3/4" square male..... | 1.20 | SH-130 |
| S-140 | Universal Joint—operating range of approximately 140°..... | 2.70 | S-140 |



SB-30

SCREW DRIVER SOCKET ATTACHMENTS — 1/2" Square Drive

For use with Standard Pattern Handles and Parts.

| No. | Size Blade | List Price |
|-------|--------------|------------|
| SB-30 | 7/64 x 15/16 | \$1.02 |
| SB-40 | 3/32 x 1-1/4 | 1.38 |



SB-40

Weights, page J.

★ REGISTERED TRADE MARK

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCH SETS

Chrome-plated over Nickel

STANDARD PATTERN—1/2" SQUARE DRIVE

SETS Nos. 21 and 21-R with Straight Wall Sockets



SET No. 21

LIST PRICE, Complete—\$14.70

11 Pieces—

10 Sockets and 1 Flex Handle

In Strong Steel Case, 17 x 2-5/8 x 1-3/4"

Total Weight, 6-3/4 lbs.

Flex Handle S-41, 17 1/4" long, with flexible head for use at practically any angle desired. Knurled grip with 1/2" square drive hole in end—may be used as Extension; 1/2" round hole for Bar.



SET No. 21-R

LIST PRICE, Complete—\$16.45

11 Pieces—

10 Sockets and Reversible "Superratchet"

In Strong Steel Case, 11-1/2 x 2-5/8 x 1-3/4"

Total Weight, 4-7/8 lbs.

S-51 "Superratchet" action reverses instantly—simply turn the shift-lever.

† Note:—Ratchet S-50 with locked-in plug connector (page 53) may be substituted for S-51 at a reduction of \$2.25 in List Price of Set.

These handy and compact Sets supply at minimum price, assortments that cover a wide variety of work. Convenient, efficient and economical, providing an excellent opportunity to the mechanic to start his Socket Set. Additions to build up a complete assortment can be made at any time. Packed in cartons containing 6 Sets.

CONTENTS OF SET

10 Twelve-Point Sockets

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Hd. Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGLR. Nut; Size Bolt | List Price, Each |
|---------|-----------------|--|---|--|----------------------------------|------------------|
| ST-1214 | 7/16 | ..... | 1/4 | 1/4 | 1/4 | \$.72 |
| ST-1216 | 1/2 | ..... | 5/16 | 5/16 | ..... | .72 |
| ST-1218 | 9/16 | ..... | 3/8 | 3/8 | 5/16 | .72 |
| ST-1219 | 19/32 | 5/16 | ..... | ..... | ..... | .72 |
| ST-1220 | 5/8 | ..... | 7/16 | 7/16 | 3/8 | .72 |
| ST-1222 | 11/16 | 3/8 | ..... | ..... | ..... | .84 |
| ST-1224 | 3/4 | ..... | 1/2 | 1/2 | 7/16 | .90 |
| ST-1225 | 25/32 | 7/16 | ..... | ..... | ..... | .90 |
| ST-1228 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | .90 |
| ST-1232 | 1 | ..... | 3/4 | 11/16 | 5/8 | 1.08 |

S-41 FLEX HANDLE—17-1/4" LONG..... 4.50

† REGISTERED TRADE MARK

CONTENTS OF SET

10 Twelve-Point Sockets

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Hd. Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGLR. Nut; Size Bolt | List Price, Each |
|---------|-----------------|--|---|--|----------------------------------|------------------|
| ST-1214 | 7/16 | ..... | 1/4 | 1/4 | 1/4 | \$.72 |
| ST-1216 | 1/2 | ..... | 5/16 | 5/16 | ..... | .72 |
| ST-1218 | 9/16 | ..... | 3/8 | 3/8 | 5/16 | .72 |
| ST-1219 | 19/32 | 5/16 | ..... | ..... | ..... | .72 |
| ST-1220 | 5/8 | ..... | 7/16 | 7/16 | 3/8 | .72 |
| ST-1222 | 11/16 | 3/8 | ..... | ..... | ..... | .84 |
| ST-1224 | 3/4 | ..... | 1/2 | 1/2 | 7/16 | .90 |
| ST-1225 | 25/32 | 7/16 | ..... | ..... | ..... | .90 |
| ST-1228 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | .90 |
| ST-1232 | 1 | ..... | 3/4 | 11/16 | 5/8 | 1.08 |

S-51 REVERSIBLE "SUPERRATCHET"—10-1/2" LONG..... 6.75

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCH SETS Chrome-plated over Nickel

STANDARD PATTERN—1/2" SQUARE DRIVE

For MECHANICS and GENERAL SERVICE

SET No. 20



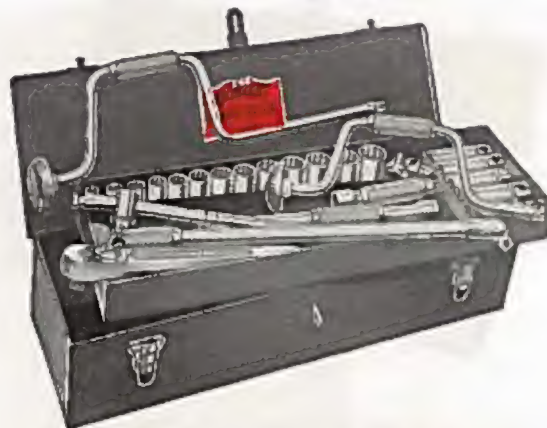
LIST PRICE, Complete—\$42.20

21 Pieces—13 Sockets and 8 Attachments
In Strong Steel Case, 20-1/4x6-1/2x3-3/4"
Total Weight, 23 lbs.

This Set is an efficient and economical assortment of 13 Standard Straight Wall "Supersockets" with 12-point openings and 8 Attachments, including Reversible "Superratchet," for garage and general use. It provides excellent service with a minimum number of tools. See table for details.

Set No. 20 (old D20) is a splendid assortment to build on, since other sizes of sockets can be added, when desired, at slight expense.

SET No. 26



LIST PRICE, Complete—\$49.60

26 Pieces—18 Sockets and 8 Attachments
In Strong Steel Case, 20-1/4x6-5/8x4-1/4"
Total Weight, 25-1/2 lbs.

The practical mechanic will appreciate this convenient and efficient Set, designed especially for general service.

It includes 18 Standard "Supersockets";—13 Regular Straight Wall, 12-point openings 7/16 to 1"; 5 Extra Deep, 12-point openings 11/16 to 1-1/8". These, with 8 Drivers, including Reversible "Superratchet" and Universal Joint, supply the comprehensive selection required in the general run of work. See table for details.

CONTENTS OF SETS

| Thin Wall Sockets | | | | Handles and Parts | | |
|---------------------|--------------------------|---------------|---------------|---|---|------------|
| Nominal Opening | Straight Wall Socket No. | LIST PRICE | | No | In Sets Nos. 20 and 26 | List Price |
| | | In Set No. 20 | In Set No. 26 | | | |
| REGULAR—12-POINT | | | | | | |
| 7/16 | ST-1214 | \$.72 | \$.72 | S-10P | Speeder—12"—with Revolving Plastic Grip.... | \$2.70 |
| 1/2 | ST-1216 | .72 | .72 | S-15P | Speeder—17-1/2"—with Revolving Plastic Grip.. | 2.70 |
| 9/16 | ST-1218 | .72 | .72 | S-20A | Sliding T Handle—11" long | 2.10 |
| 19/32 | ST-1219 | .72 | .72 | S-41 | Flex Handle—17-1/4" long..... | 4.50 |
| 5/8 | ST-1220 | .72 | .72 | *S-51 | Reversible "Superratchet"—10-1/2" long..... | 6.75 |
| 11/16 | ST-1222 | .84 | .84 | S-110P | Extension—5-1/2" | 1.20 |
| 3/4 | ST-1224 | .90 | .90 | S-115P | Extension—10-1/2" | 1.65 |
| 25/32 | ST-1225 | .90 | .90 | S-140 | Universal Joint—approx. operating range 140°... | 2.70 |
| 13/16 | ST-1226 | .90 | .90 | *NOTE:—Ratchet No. S-50, with reversible locked-in plug connector (page 53) may be substituted for S-51 at a reduction of \$2.25 in List Price of each Set. | | |
| 7/8 | ST-1228 | .90 | .90 | | | |
| 15/16 | ST-1230 | 1.08 | 1.08 | | | |
| 31/32 | ST-1231 | 1.08 | 1.08 | | | |
| 1 | ST-1232 | 1.08 | 1.08 | | | |
| EXTRA DEEP—12-POINT | | | | | | |
| 11/16 | SD-1222 | ..... | 1.26 | | | |
| 13/16 | SD-1226 | ..... | 1.26 | | | |
| 7/8 | SD-1228T | ..... | 1.26 | | | |
| 15/16 | SD-1230 | ..... | 1.38 | | | |
| 1-1/8 | SD-1236 | ..... | 1.68 | | | |

† REGISTERED TRADE MARK

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCH SETS

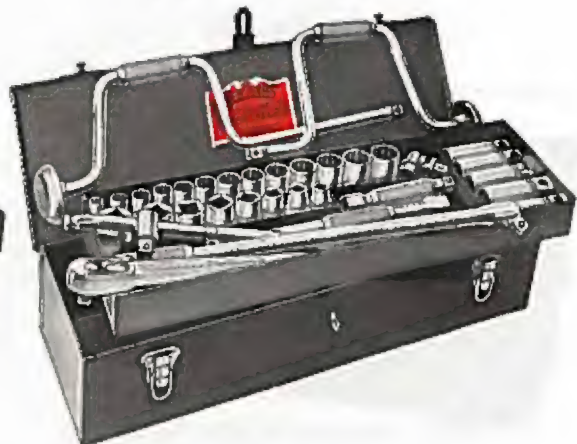
Chrome-plated over Nickel

STANDARD PATTERN—1/2" SQUARE DRIVE

EXTRA CAPACITY

SET No. 30

SET No. 36



"Extra Capacity" Sets Nos. 30 and 36 are all the name implies. They carry a wide assortment of "Supersockets" and attachments, providing comprehensive service for general, all-around work.

LIST PRICE, Complete—\$48.85

29 Pieces — 21 Sockets and 8 Attachments
In Strong Steel Case, 20-1/4x6-1/2x3-3/4"
Total Weight, 25-1/2 lbs.

LIST PRICE, Complete—\$55.85

34 Pieces — 26 Sockets and 8 Attachments
In Strong Steel Case, 20-1/4x6-5/8x4-1/4"
Total Weight, 27-3/4 lbs.

SET No. 30 (old D30) contains 21 Standard "Supersockets":—13 Straight Wall, 12-point openings 7/16 to 1" for all popular sizes of U.S., S.A.E., and Amer. Std. Nuts and Cap Screws; 8 Regular, square openings 3/8 to 7/8". Also, 8 Handles and Parts, including Reversible "Superratchet" and Universal Joint.

SET No. 36 contains 26 Standard "Supersockets":—13 Straight Wall, 12-point openings 7/16 to 1" for all popular sizes of U.S., S.A.E., and Amer. Std. Nuts and Cap Screws; 5 Extra Deep, 12-Point openings 11/16 to 1-1/8" for popular spark plugs; 8 Regular, square openings 3/8 to 7/8". Also, 8 Handles and Parts, including Reversible "Superratchet" and Universal Joint.

CONTENTS OF SETS

| Thin Wall Sockets | | | | | Handles and Parts | | |
|-----------------------------------|---------------|------------------|---------------|--------|-------------------|------------------------|---------------|
| Nom- inal Open- g. | Socket No. | LIST PRICE | | | No. | In Sets Nos. 30 and 36 | List Price |
| | | In Set No. 30 | In Set No. 36 | | | | |
| STRAIGHT WALL—12-POINT—EXTRA DEEP | | | | | | | |
| 7/16 | ST-1214 | \$.72 | ST-1214 | \$.72 | | | |
| 1/2 | ST-1216 | .72 | ST-1216 | .72 | | | |
| 9/16 | ST-1218 | .72 | ST-1218 | .72 | | | |
| 19/32 | ST-1219 | .72 | ST-1219 | .72 | | | |
| 5/8 | ST-1220 | .72 | ST-1220 | .72 | | | |
| 11/16 | ST-1222 | .84 | ST-1222 | .84 | SD-1222 | \$1.26 | |
| 3/4 | ST-1224 | .90 | ST-1224 | .90 | | | |
| 25/32 | ST-1225 | .90 | ST-1225 | .90 | | | |
| 13/16 | ST-1226 | .90 | ST-1226 | .90 | SD-1226 | 1.20 | |
| 7/8 | ST-1228 | .90 | ST-1228 | .90 | SD-1228T | 1.26 | |
| 15/16 | ST-1230 | 1.08 | ST-1230 | 1.08 | SD-1230 | 1.38 | |
| 31/32 | ST-1231 | 1.08 | ST-1231 | 1.08 | | | |
| 1 | ST-1232 | 1.08 | ST-1232 | 1.08 | | | |
| 1-1/8 | | | | | SD-1236 | 1.68 | |
| REGULAR—SQUARE OPENING | | | | | | | |
| 3/8 | S-412 | .72 | S-412 | .72 | | | |
| 7/16 | S-414 | .72 | S-414 | .72 | | | |
| 1/2 | S-416 | .72 | S-416 | .72 | | | |
| 9/16 | S-418 | .72 | S-418 | .72 | | | |
| 5/8 | S-420 | .72 | S-420 | .72 | | | |
| 11/16 | S-422 | .84 | S-422 | .84 | | | |
| 3/4 | S-424 | .90 | S-424 | .90 | | | |
| 7/8 | S-428 | .90 | S-428 | .90 | | | |

| | | |
|--------|--|--------|
| S-10P | Speeder—12"—with Revolving Plastic Grip | \$2.70 |
| S-15P | Speeder—17-1/2"—with Revolving Plastic Grip.. | 2.70 |
| S-20A | Sliding T Handle—11" long | 2.10 |
| S-41 | Flex Handle—17-1/4" long. | 4.50 |
| *S-51 | Reversible "Superratchet"—10-1/2" long | 6.75 |
| S-110P | Extension—5-1/2" | 1.20 |
| S-115P | Extension—10-1/2" | 1.65 |
| S-140 | Universal Joint—approx. operating range 140° . . | 2.70 |

*NOTE:—Ratchet No. S-50, with reversible locked-in plug connector (page 53), may be substituted for S-51 at a reduction of \$2.25 in List Price each Set.

★ REGISTERED TRADE MARK

3-43

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

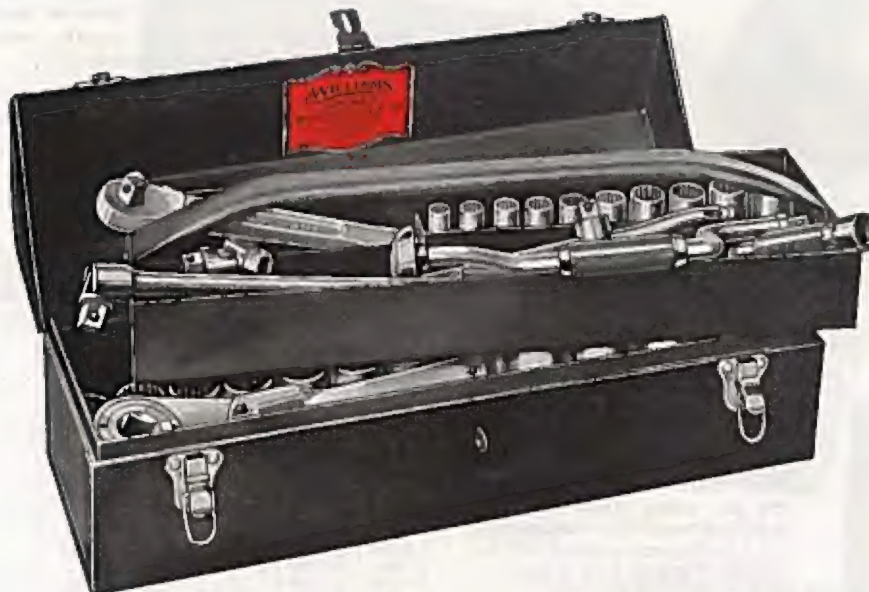
WILLIAMS' "SUPERSOCKET" WRENCH SETS

Chrome-plated over Nickel

MASTER MECHANICS' SET No. 55

STANDARD PATTERN
1/2" SQUARE DRIVE

HEAVY DUTY PATTERN
3/4" SQUARE DRIVE



SET No. 55—LIST PRICE, Complete as shown—\$87.85

In Strong Steel Case, 20-1/2 x 6-3/4 x 6-3/4"
Total Weight, 43-1/2 lbs.

SET No. 55-A—LIST PRICE—\$83.35

Same as Set 55 but without Flex Handle S-41

Set No. 55 will be furnished, unless otherwise specified

This combination of "Standard" and "Heavy Duty" Socket Wrenches is especially adapted to industrial work and it is the ideal Millwrights' Set. Extremely useful for the set-up and maintenance of all machinery. Twenty-one 12-point Sockets for all U. S. Std. nuts, 1/4 to 1", cap screws 1/4 to 1-1/8", S.A.E. Std. nuts and cap screws 1/4 to 1-1/8", and Amer. Std. regular and

jam nuts 1/4 to 1"; with two complete lines of 13 Handles and Parts—Standard pattern for Sockets up to 1" hex and Heavy Duty pattern for the larger sizes. The great variety of handle styles provides all desirable Socket Wrench combinations.

If wanted, Square Sockets may be obtained at slight expense.

12-point Sockets — CONTENTS OF SET — Handles and Parts

| Standard Pattern | | | Heavy Duty Pattern | | | No. | Piece | List Price |
|------------------|---------|------------|--------------------|--------|------------|--------|---|------------|
| Nominal Opening | No. | List Price | Nominal Opening | No. | List Price | | | |
| 7/16 | ST-1214 | .72 | 1-1/16 | H-1234 | \$1.32 | S-10P | STANDARD PATTERN | |
| 1/2 | ST-1216 | .72 | 1-1/8 | H-1236 | 1.38 | S-15P | Speeder—12"—with Revolving Plastic Grip | \$2.70 |
| 9/16 | ST-1218 | .72 | | | | S-20A | Speeder—17-1/2"—with Rev. Plastic Grip | 2.70 |
| 19/32 | ST-1219 | .72 | | | | S-41 | Sliding T Handle—11" Long | 2.10 |
| 5/8 | ST-1220 | .72 | 1-1/4 | H-1240 | 1.56 | †S-51 | Flex Handle—17-1/4" Long | 4.50 |
| 11/16 | ST-1222 | .84 | 1-5/16 | H-1242 | 1.56 | S-110P | Reversible "Superratchet"—10-1/2" Long | 6.75 |
| 3/4 | ST-1224 | .90 | | | | S-115P | Extension—5-1/2" | 1.20 |
| 25/32 | ST-1225 | .90 | 1-3/8 | H-1244 | 1.56 | S-140 | Extension—10-1/2" | 1.85 |
| 13/16 | ST-1226 | .90 | 1-7/16 | H-1246 | 1.86 | | Universal Joint; approx. operating range 140° | 2.70 |
| 7/8 | ST-1228 | .90 | | | | | HEAVY DUTY PATTERN | |
| 15/16 | ST-1230 | 1.08 | | | | H-20A | Sliding T Handle—17-1/2" Long | 3.30 |
| 31/32 | ST-1231 | 1.08 | 1-1/2 | H-1248 | 1.86 | H-50 | Ratchet—18-1/2", with Plug-Connector | 10.50 |
| 1 | ST-1232 | 1.08 | 1-5/8 | H-1252 | 2.16 | H-110 | Extension—8" Long | 2.70 |
| | | | | | | H-115 | Extension—10-1/2" Long | 3.30 |
| | | | | | | H-140 | Universal Joint; approx. operating range 140° | 7.50 |

*NOTE:—Flex Handle S-41 omitted from Set 55-A.

† S-50 Ratchet (page 53) may be substituted for S-51 at a reduction of \$2.25 List Price for Set.

★ REGISTERED TRADE MARK

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS

WILLIAMS
SUPERIOR DROP-FORGED TOOLS

AND DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCHES

Chrome-plated over Nickel

HEAVY DUTY PATTERN—3/4" SQUARE DRIVE



With
12-point
Opening



SOCKETS

Williams' Heavy Duty Sockets are designed for harder service where more strength is required than on the every-day job. They provide ample strength without clumsy bulk. Will rotate nuts completely where handle can be swung only 30°.

Made from superior high tensile steel and heat-treated in electric furnaces. Sockets packed 2 in a box.

To use "Heavy Duty" Sockets (3/4" square female drive) with "Standard" Handles (1/2" square male drive), use Adapter SH-180, page 58.

Whitworth Std. sizes also; details on request.

EXTRA DEEP HEAVY DUTY SOCKETS

Specially designed for U-bolt nuts on Buses and Trucks and other HEAVY service requiring an extra deep opening. Ample strength for the hardest jobs. Indispensable in cramped spaces. Packed 3 in a box.

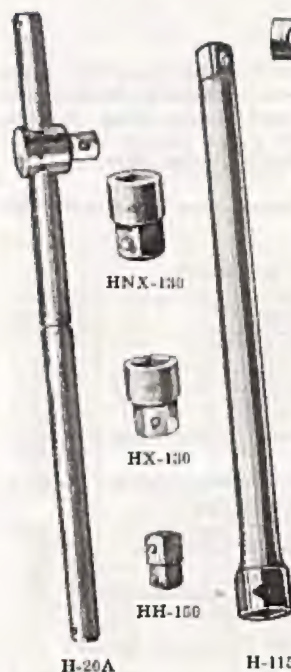


| Openg. | No. | Lgth. | List |
|--------|---------|-------|--------|
| 15/16 | HD-1230 | 3-1/4 | \$1.62 |
| 1-1/16 | HD-1234 | 3-1/4 | 1.86 |
| 1-1/4 | HD-1240 | 3-1/4 | 2.28 |
| 1-7/16 | HD-1246 | 3-1/2 | 2.52 |

| Size Open- ing | No. | List Price, Each | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut |
|----------------------|--------|------------------------|--|------------------------------------|--|------------------------------|
| * 7/8 | H-1228 | \$1.08 | 1/2 | 5/8 | 9/16 | 9/16 |
| 15/16 | H-1230 | 1.08 | | | 5/8 | |
| * 31/32 | H-1231 | 1.08 | 9/16 | | | |
| 1 | H-1232 | 1.08 | | 3/4 | 11/16 | 5/8 |
| 1-1/16 | H-1234 | 1.32 | 5/8 | | 3/4 | |
| 1-1/8 | H-1236 | 1.38 | | 7/8 | | 3/4 |
| 1-3/16 | H-1238 | 1.38 | | | | |
| 1-1/4 | H-1240 | 1.60 | 3/4 | | 7/8 | |
| 1-5/16 | H-1242 | 1.60 | | 1 | | 7/8 |
| 1-3/8 | H-1244 | 1.68 | | | | |
| 1-7/16 | H-1246 | 1.88 | 7/8 | | 1 | |
| 1-1/2 | H-1248 | 1.88 | | 1-1/8 | | 1 |
| 1-5/8 | H-1252 | 2.16 | 1 | | 1-1/8 | |
| 1-11/16 | H-1254 | 2.70 | | 1-1/4 | | 1-1/8 |
| 1-3/4 | H-1256 | 2.70 | | | | |
| 1-13/16 | H-1258 | 2.95 | 1-1/8 | | 1-1/4 | |
| 1-7/8 | H-1260 | 2.95 | | | | 1-1/4 |
| 2 | H-1264 | 3.60 | 1-1/4 | | 1-3/8 | |
| * 2-1/16 | H-1266 | 4.10 | | | | 1-3/8 |
| * 2-1/8 | H-1268 | 4.40 | | | | |
| * 2-3/16 | H-1270 | 4.70 | 1-3/8 | | 1-1/2 | |
| * 2-1/4 | H-1272 | 5.30 | | | | 1-1/2 |

For Extra Deep Standard Sockets (1/2" square drive) see page 52.

HANDLES and PARTS



| No. | Piece | List |
|---------|--|--------|
| H-20A | Sliding T Handle—17-1/2" long..... | \$3.30 |
| H-41 | Flex Handle—20" long; flexible head, knurled grip and cross hole for Sliding Bar..... | 6.15 |
| H-41B | Sliding Bar, 3/4" x 16" for H-41..... | 1.10 |
| H-50 | Ratchet—18-1/2" long; Complete with Plug-Connector H-150..... | 10.50 |
| H-110 | Extension Bar—8" long..... | 2.70 |
| H-115 | Extension Bar—15-1/2" long..... | 3.30 |
| HNX-130 | Adapter, 3/4" square female and 1" square male—Adapts Heavy Duty Handles (3/4" square male drive) to Extra Heavy Duty Sockets (1" square female drive). See page 60. | 1.50 |
| HX-130 | Adapter, 3/4" square female and 1" hex male—Adapts Heavy Duty Handles (3/4" square male drive) to old style Extra Heavy Duty Sockets (1" hex female drive)..... | 1.50 |
| H-140 | Universal Joint—approx. operating range 140°..... | 7.50 |
| H-150 | Ratchet Plug-Connector..... | 1.20 |
| HH-150 | Plug-Adapter, 5/8" square male and 3/4" square female..... | 1.50 |



Weights, pages J and K.

★ REGISTERED TRADE MARK

Page 58-A

*Discontinued—will supply until stock is exhausted.

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**
SUPERIOR DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCH SETS

Chrome-plated over Nickel

HEAVY DUTY PATTERN—3/4" Square Drive

SETS NOS 50 AND 51



In Strong Steel Case
 19-3/4 x 5-1/4 x 2-3/4"

SET No. 50

LIST PRICE, Complete — \$48.54

15 Pieces—10 Sockets and 5 Attachments
 Total Weight, 28-3/4 lbs.

TRUCK SET No. 51

LIST PRICE, Complete — \$30.54

13 Pieces—10 Sockets and 3 Attachments
 Total Weight, 22-1/4 lbs.

For severe service requiring tools of trim design, yet of ample strength, these Heavy Duty Sets are unusually handy, efficient and economical.

Ten Sockets with 12-point openings from 1-1/16 to 1-3/4", care for all U. S. Std. Nuts 5/8 to 1"; Hex Cap Screw 7/8 to 1-1/8"; all S. A. E. Std. Nuts 3/4 to 1-1/8; all Amer. Std. Regular and Jam Nuts 3/4 to 1"; Light and Castle Nuts 3/4 to 1-1/8".

The Handles and Parts are easily connected with the Sockets (and as readily disconnected), but are held firmly against unintentional displacement.

† Set No. 51 is same in all respects as Set No. 50, excepting that it does not include Ratchet H-50 and Universal Joint H-140—see table below.

CONTENTS OF SETS

| 10 Twelve-point Sockets in Sets 50 and 51 | | | | | | | 5 Handles and Parts in Set 50 | | |
|---|--------|-------------------------------|-------------------------------|-------------------------------|------------------------|------------------|-------------------------------|---|------------------|
| Size Opening | No. | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | List Price, Each | No. | PIECES | List Price, Each |
| 1-1/16 | H-1234 | 5/8 | | 3/4 | | \$1.32 | H-20A | Sliding T Handle—17-1/2" long..... | \$3.30 |
| 1-1/8 | H-1236 | | 7/8 | | 3/4 | 1.38 | †H-50 | Ratchet—18-1/2"—Complete with Plug-Connector..... | 10.50 |
| 1-3/16 | H-1238 | | | | | 1.38 | H-110 | Extension—8" long..... | 2.70 |
| 1-1/4 | H-1240 | 3/4 | | 7/8 | | 1.56 | H-115 | Extension—15-1/2" long..... | 3.30 |
| 1-5/16 | H-1242 | | 1 | | 7/8 | 1.56 | †H-140 | Universal Joint—approximate operating range 140°..... | 7.50 |
| 1-3/8 | H-1244 | | | | | 1.56 | | | |
| 1-7/16 | H-1246 | 7/8 | | 1 | | 1.86 | | | |
| 1-1/2 | H-1248 | | 1-1/8 | | 1 | 1.86 | | | |
| 1-5/8 | H-1252 | 1 | | 1-1/8 | | 2.16 | | | |
| 1-3/4 | H-1256 | | | | | 2.70 | | | |

† Nos. H-50 and H-140 omitted from Set 51.

★ REGISTERED TRADE MARK

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

WILLIAMS' "SUPERSOCKET" WRENCHES

Chrome-plated over Nickel

EXTRA HEAVY DUTY PATTERN

1" SQUARE DRIVE

SOCKETS



With
12-Point
Opening

Williams' Extra Heavy Duty Sockets provide sturdy, rugged strength for the hardest kind of service. In addition to the 1" square drive opening in their base, they are cross-drilled to receive the Sliding Handle which is thus brought close to the work. This minimizes the tendency to tip when the socket is used near the end of the handle. Will rotate nuts completely where the handle can be swung only 30°.

Another feature is the "Lock-Socket" device which provides a positive lock between the sockets and attachments. To release the "Lock-Socket" simply press the button on the socket and pull. This device eliminates all danger of sockets becoming detached in service.

Made from a superior grade of high tensile steel and heat-treated in electric furnaces for maximum strength.

Sockets Nos. NX-1234 to NX-1248 packed 2 in a box. All others, 1 in a box.

| Nom- inal Open- ing | No. | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGUL'R Nut; Size Bolt | List Price, Each | Nom- inal Open- ing | No. | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | List Price, Each |
|------------------------------|---------|---|---|---|--|------------------------|------------------------------|---------|---|---|------------------------|
| 1-1/16 | NX-1234 | 5/8 | ..... | 3/4 | ..... | \$1.80 | 1-13/16 | NX-1258 | 1-1/8 | 1-1/4 | \$ 4.20 |
| 1-1/8 | NX-1236 | ..... | 7/8 | ..... | 3/4 | 1.80 | 2 | NX-1264 | 1-1/4 | 1-3/8 | 4.80 |
| 1-1/4 | NX-1240 | 3/4 | ..... | 7/8 | ..... | 1.98 | 2-3/16 | NX-1270 | 1-3/8 | 1-1/2 | 6.30 |
| 1-3/8 | NX-1244 | ..... | ..... | 1 | ..... | 2.10 | 2-3/8 | NX-1276 | 1-1/2 | ..... | 7.50 |
| 1-7/16 | NX-1246 | 7/8 | ..... | ..... | 1 | 2.22 | 2-1/2 | NX-1280 | ..... | ..... | 10.50 |
| 1-1/2 | NX-1248 | ..... | 1-1/8 | ..... | 1 | 2.70 | 2-9/16 | *NX-682 | 1-5/8 | ..... | 12.00 |
| 1-5/8 | NX-1252 | 1 | ..... | 1-1/8 | ..... | 3.00 | 2-3/4 | *NX-688 | 1-3/4 | ..... | 16.50 |

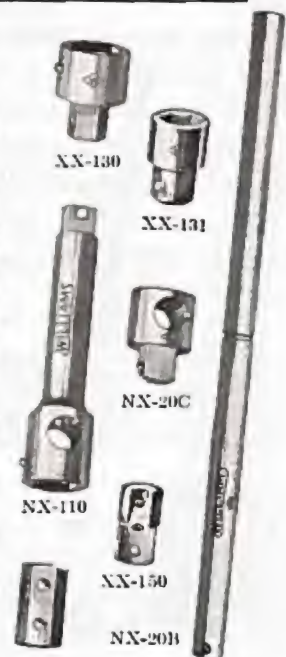
* These 2 Sockets have 6-point opening, short neck, no cross-hole.

Note:—To use "Extra Heavy Duty" Sockets (1" square female drive) with "Heavy Duty" Handles (3/4" square male drive), use Adapter HNX-130; pages 58 and 64.

HANDLES and PARTS



| No. | Piece | List Price, Each |
|--------|--|------------------------|
| NX-20B | Sliding Handle—1" diam., 20" long.. | \$ 2.10 |
| NX-20C | Adapter—for Sliding Handle NX-20B | 3.00 |
| NX-50 | Ratchet—20-1/2" long—Complete with Plug-Connector XX-150..... | 16.20 |
| NX-110 | Extension Bar—9" long..... | 5.25 |
| NX-115 | Extension Bar—18" long..... | 6.40 |
| X-150 | Ratchet Plug-Connector—1" hex.... | 1.68 |
| XX-130 | Adapter—1" square Female and 1" hex Male..... | 3.30 |
| XX-131 | Adapter—1" hex Female and 1" square Male..... | 3.30 |
| XX-150 | Adapter—1" square Male and 1" hex Male..... | 2.70 |



Weights, pages J and K.

★ REGISTERED TRADE MARK

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**
SUPERIOR DROP-FORGED TOOLS

WILLIAMS' +“SUPERSOCKET” WRENCH SETS

Chrome-plated over Nickel

EXTRA HEAVY DUTY PATTERN

1" SQUARE DRIVE

SET No. 76



LIST PRICE, Complete—16 Pieces—\$77.00

In Strong Steel Case, 21-1/4 x 7-1/8 x 4-5/8" — Total Weight 53 lbs.

Excellent for Bus and Truck Service

11 Sockets, 12-point openings 1-1/16, 1-1/8, 1-1/4, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-13/16, 2, 2-3/16 and 2-3/8".

5 Accessories, Nos. NX-20B, NX-20C, NX-50, NX-110 and NX-115

SET No. 81



LIST PRICE, Complete—10 Pieces—\$44.25

In Strong Steel Case, 21 x 4-3/8 x 4-1/4"
Total Weight, 32 lbs.

7 Sockets, openings 1-1/4, 1-7/16, 1-5/8, 1-13/16, 2, 2-3/16 and 2-3/8".

3 Accessories, Nos. NX-20B, NX-20C and NX-110.

A compact Set suitable where range of work required is more restricted.

+ REGISTERED TRADE MARK

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**
SUPERIOR DROP-FORGED TOOLS

WILLIAMS' SUPER WRENCH-CHEST No. 1001-A

"The Complete Tool Room"



LIST PRICE, Complete—\$152.50
83 Pieces—44 Sockets, 39 Handles and Wrenches
In Strong Steel Case, 23 x 10-1/4 x 10"
Total Weight, 69 lbs.

Williams' Super Wrench-Chest provides a complete assortment of wrenches in numerous patterns and sizes for machinists and mechanics—it's a miniature tool room in itself. Every opening required, from 3/16", for delicate adjustments and fussy jobs, up to 1-5/8" for heavy work, requiring tools of rugged strength.

In addition to Midget, Bantam, Standard and Heavy Duty "Supersockets", with their Handles and Parts, there are 8 12-point Box "Superrenches" (Chrome-Molybdenum)—3 short double offset and 5 long 15° angle—with 12-point openings, 2 "Superpliers" Midget, 4-1/2" long — Standard—9-1/2"), a Hammerhead Screw-driver and 6 Long Thin "Superrenches". All tools are heat-treated and finished in chrome-plate, excepting "Superpliers".

The case and tray are of extra heavy metal, thoroughly reinforced at the corners. Continuous, full length "piano" hinges on both cover and "front door".

The latter is deep and wide, providing complete accessibility to the bottom compartment. Individual tools can be readily located. The Chest is built to last a lifetime and is of ample size to accommodate additional tools.

The case is equipped with four ball casters, fitted with ball bearings, and can be easily rolled on bench or floor. It can also be carried comfortably, without disarranging the tools, by means of the strong metal "tote" handle on the top. A strong padlock with individual, duplicate keys is furnished.

(Contents listed on following page)

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NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' SUPER WRENCH-CHEST No. 1001-A "The Complete Tool Room"

(Continued)

CONTENTS OF CHEST—"SUPERSOCKETS" and "SUPERRENCHES"

| "SUPERSOCKETS" | | | | | | | SOCKET PARTS and WRENCHES | | |
|--|------------|-------------------------------|------------------------------|-------------------------------|-------------------------|------------------|--|--|------------|
| Nominal Opening | No. | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nuts | List Price, Each | No. | Piece | List Price |
| MIDGET PATTERN—Straight Wall—1/4" Sq. Dr. | | | | | | | MIDGET PATTERN—1/4" Sq. Drive | | |
| Hex | Stgt. Wall | | | | Mch. Scr. No. 2 & 3 | \$ | NM-20A | Sliding T Handle—4-1/2" long. | \$1.02 |
| 3/16 | NM-606 | | | | | .45 | NM-110 | Extension—Driver, 5-3/8", with revolving, lockable Grip. | 1.44 |
| 7/32 | NM-607 | | | | | .45 | | | |
| 1/4 | NM-608 | | | | | .45 | | | |
| 9/32 | NM-609 | | | | | .45 | | | |
| 12-Pt. | | | | | | | BANTAM PATTERN—3/8" Sq. Drive | | |
| 5/16 | NM-1210 | 1/8 | 1/8 | | 5 & 6 | .45 | F-15 | Speeder—16-1/2" long, with knurled, revolving Grip. | 2.10 |
| 11/32 | NM-1211 | | | | 8 | .45 | B-20A | Sliding T Handle—6-1/2" long. | 1.35 |
| 3/8 | NM-1212 | | 3/16 | | 10 | .45 | B-40 | Flex Handle—8" long; flexible head. Knurled Grip with 3/8" square drive hole in end—for use as Extension. | 2.70 |
| 7/16 | NM-1214 | | 1/4 | 1/4 | 12 & 1/4 | .45 | B-51 | REVERSIBLE Ratchet, 6-1/2" long. | 4.50 |
| BANTAM PATTERN—Straight Wall—3/8" Sq. Dr. | | | | | | | B-110 | Extension Bar—5-3/4" long. | 1.08 |
| 12-Pt. | Stgt. Wall | | | | *No. 10 | .72 | B-115 | Extension Bar—10-1/2" long. | 1.20 |
| 3/8 | B-1212 | | 3/16 | | 1/4 | .72 | B-140 | Universal Joint. | 2.46 |
| 7/16 | B-1214 | | 1/4 | 1/4 | | .72 | | | |
| 1/2 | B-1216 | 1/4 | 5/16 | 5/16 | | .72 | STANDARD PATTERN—1/2" Sq. Drive | | |
| 9/16 | B-1218 | | 3/8 | 3/8 | 5/16 | .72 | S-10P | Speeder—12" long, with "door knob" revolving Plastic Grip. | 2.70 |
| 5/8 | B-1220 | | 7/16 | 7/16 | 3/8 | .72 | S-15P | Speeder—17-1/2" long, with "door knob" revolving Plastic Grip. | 2.70 |
| 11/16 | B-1222 | 3/8 | | | | .84 | S-20A | Sliding T Handle—11" long. | 2.10 |
| 3/4 | B-1224 | | 1/2 | 1/2 | 7/16 | .84 | S-41 | Extra Long Flex Handle—17"—flexible head. Knurled Grip with 1/2" square drive hole in end, for use as Extension; also 1/2" round hole for Bar. | 4.50 |
| STANDARD PATTERN—1/2" Sq. Drive | | | | | | | S-51 | REVERSIBLE Ratchet, 10-1/2" long. | 6.75 |
| 12-pt. | Stgt. Wall | | | | | .72 | S-110P | Extension Bar—5-1/2" long. | 1.20 |
| 7/16 | ST-1214 | | 1/4 | 1/4 | 1/4 | .72 | S-115P | Extension Bar—10-1/2" long. | 1.65 |
| 1/2 | ST-1216 | 1/4 | 5/16 | 5/16 | | .72 | S-140 | Universal Joint. | 2.70 |
| 9/16 | ST-1218 | | 3/8 | 3/8 | 5/16 | .72 | | | |
| 19/32 | ST-1219 | 5/16 | | | | .72 | HEAVY DUTY PATTERN—3/4" Sq. Drive | | |
| 5/8 | ST-1220 | | 7/16 | 7/16 | 3/8 | .72 | H-20A | Sliding T Handle—17-1/2" long. | 3.30 |
| 11/16 | ST-1222 | 3/8 | | | | .84 | H-50 | Ratchet, Complete—18-1/2" long. | 10.50 |
| 3/4 | ST-1224 | | 1/2 | 1/2 | 7/16 | .90 | H-110 | Extension Bar—8" long. | 2.70 |
| 25/32 | ST-1225 | 7/16 | | | | .90 | H-115 | Extension Bar—15-1/2" long. | 3.30 |
| 13/16 | ST-1226 | | 9/16 | | 1/2 | .90 | H-140 | Universal Joint. | 7.50 |
| 7/8 | ST-1228 | 1/2 | 5/8 | 9/16 | 9/16 | .90 | | | |
| 15/16 | ST-1230 | | | 5/8 | | 1.08 | LONG THIN "SUPERRENCHES" | | |
| 31/32 | ST-1231 | 9/16 | | | | 1.08 | 1090D | Openings 1/2 & 9/16"—8" long. | .76 |
| I | ST-1232 | | 3/4 | 11/16 | 5/8 | 1.08 | 1090D | | .76 |
| | Extra Deep | | | | | | 1092F | | .82 |
| 13/16 | SD-1226 | | 9/16 | | 1/2 | 1.26 | 1092F | Openings 5/8 & 11/16"—8" long. | .82 |
| 7/8 | SD-1228T | | | | | 1.26 | 1094 | | .88 |
| I | SD-1232 | | | 5/8 | | 1.50 | 1094 | | .88 |
| 1-1/8 | SD-1236 | | 7/8 | | 3/4 | 1.68 | 1094 | Openings 3/4 & 7/8"—9" long. | .88 |
| HEAVY DUTY PATTERN—3/4" Sq. Drive | | | | | | | 12-POINT BOX "SUPERRENCHES" | | |
| 12-Pt. | Taper | | | | | | 7723 | 3/8 & 7/16—7-3/8" | .95 |
| 1-1/16 | H-1234 | 5/8 | | 3/4 | | 1.32 | 7025 | 1/2 & 19/32—8-1/4" | 1.00 |
| 1-1/8 | H-1236 | | 7/8 | | 3/4 | 1.38 | 7727 | 9/16 & 5/8—9-1/4" | 1.05 |
| 1-1/4 | H-1240 | 3/4 | | 7/8 | | 1.56 | 7731A | 3/4 & 7/8—12" | 1.40 |
| 1-5/16 | H-1242 | | 1 | | 7/8 | 1.56 | 7033C | 15/16 & 1—13-3/4" | 1.85 |
| 1-3/8 | H-1244 | | | | | 1.56 | 9723 | 3/8 & 7/16—4-1/2" | .95 |
| 1-7/16 | H-1246 | 7/8 | | 1 | | 1.86 | 9725 | 7/16 & 1/2—5-1/2" | 1.00 |
| 1-1/2 | H-1248 | | 1-1/8 | | 1 | 1.86 | 9727 | 9/16 & 5/8—6" | 1.10 |
| 1-5/8 | H-1252 | 1 | | 1-1/8 | | 2.16 | "SUPERPLIERS," ETC. | | |
| | | | | | | | 1519 | Midget, 4-1/2"; 4-position slip-joint plier | 1.85 |
| | | | | | | | 1520 | Standard, 9-1/2"; 8-position slip-joint. | 2.20 |
| | | | | | | | 1997 | Hammerhead Screwdriver. | 1.30 |

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

WILLIAMS' "SUPERSOCKET" WRENCHES

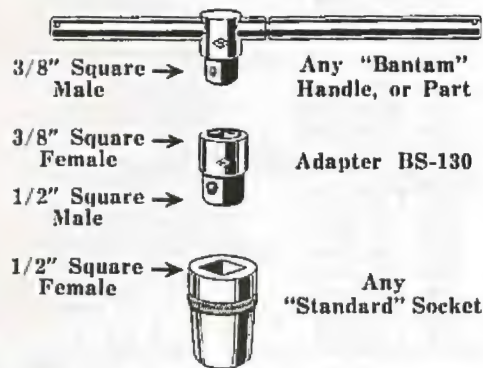
Chrome-plated over Nickel

ADAPTERS—FOR "SUPERSOCKETS", HANDLES AND PARTS



Williams' Adapters provide for the use of Sockets of one pattern with Handles and Parts of another pattern. See illustration at right showing, for instance, how Adapter BS-130 permits use of "Bantam" Handles (3/8" square male drive) with "Standard" Sockets (1/2" square female drive).

Finished in chrome-plate over nickel.



| No. | ADAPTER | PRICE | No. |
|---------|---|--------|---------|
| MM-130 | 1/4" square male and 9/32" square female. Adapts Sockets with 1/4" square drive-opening to Handles with 9/32" square drive-plug..... | \$.90 | MM-130 |
| MM-131 | 9/32" square male and 1/4" square female. Adapts Sockets with 9/32" square drive-opening to Handles with 1/4" square drive-plug..... | .90 | MM-131 |
| MM-150 | 9/32" square male and 1/4" square female. Adapts Sockets with 9/32" square drive-opening to Ratchet with 1/4" square female drive; also, Ratchets with 9/32" square drive-opening to Sockets with 1/4" square female drive..... | .60 | MM-150 |
| BM-130 | 9/32" square male and 3/8" square female. Adapts "Bantam" Handles and Parts (3/8" square male drive) to "Midget" Sockets (9/32" square drive-opening).... | .90 | BM-130 |
| BS-130 | 1/2" square male and 3/8" square female. Adapts "Bantam" Handles and Parts (3/8" square male drive) to "Standard" Sockets (1/2" square drive-opening)... | 1.02 | BS-130 |
| BS-131 | 3/8" square male and 1/2" square female. Adapts "Bantam" Sockets (3/8" square drive-opening) to "Standard" Handles and Parts (1/2" square male drive).... | 1.02 | BS-131 |
| SH-130 | 3/4" square male and 1/2" square female. Adapts "Standard" Handles and Parts (1/2" square male drive) to "Heavy Duty" Sockets (3/4" square female drive)... | 1.20 | SH-130 |
| HX-130 | 1" hex male and 3/4" square female. Adapts "Heavy Duty" Handles and Parts (3/4" square male drive) to Sockets with 1" hex female drive..... | 1.50 | HX-130 |
| HNX-130 | 1" square male and 3/4" square female. Adapts "Heavy Duty" Handles and Parts (3/4" square male drive) to "Extra Heavy Duty" Sockets (1" square drive-opening)..... | 1.50 | HNX-130 |
| XX-130 | 1" hex male and 1" square female. Adapts Sockets 1" hex drive-opening to Handles and Parts with 1" square male drive..... | 3.30 | XX-130 |
| XX-131 | 1" hex female and 1" square male. Adapts Sockets 1" square drive-opening to Handles and Parts with 1" hex male drive..... | 3.30 | XX-131 |
| HH-150 | 5/8" square male and 3/4" square male. Adapts Sockets with 5/8" square drive-opening to Ratchets with 3/4" square drive; also, Ratchets with 5/8" square drive to Sockets with 3/4" square drive-opening..... | 1.50 | HH-150 |
| XX-150 | 1" square male and 1" hex male. Adapts Sockets with 1" square drive-opening to Ratchets with 1" hex male drive; also, Ratchets with 1" square drive to Sockets, 1" hex drive-opening..... | 2.70 | XX-150 |

NOTICE—National Emergency and Critical Metal Shortage make Finish and Material substitutions necessary without notice or regard to catalog descriptions

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCHES Chrome-plated over Nickel FOR REFRIGERATION SERVICE SET No. R-19

LIST PRICE
Complete, \$18.50
19 Pieces

In Strong Steel Case
7-3/4 x 3-3/8 x 1-1/4"
Total Weight, 2-3/4 lbs.

This handy, compact assortment of "Supersocket" Wrenches has been carefully selected for servicing and repairing all makes of Electric Refrigerators. 14 slim, straight-wall Chrome-Alloy Sockets and 5 Accessories, including a specially designed Reversible Ratchet, described in table below; heat-treated and chrome-plated.

For Refrigeration Wheel Puller
See Page 73



CONTENTS OF SET

†Midget "Supersockets" 9/32" Square Drive



M-406 to
M-812

| No. | Square Opening | Diameter | | List Price |
|-------|----------------|----------|-------|------------|
| | | Nose | Base | |
| M-406 | 3/16 | 7/16 | 1/2 | \$.45 |
| M-407 | 7/32 | 15/32 | 1/2 | .45 |
| M-408 | 1/4 | 1/2 | 1/2 | .45 |
| M-810 | *5/16 | 9/16 | 9/16 | .45 |
| M-812 | *3/8 | 11/16 | 11/16 | .45 |

† All 7/8" long. * 8-Point Opening.

Kerotest Valve Packing Nut Socket 9/32" Square Drive



MR-15

| No. | Oval Opening | Extreme Size | | List Price |
|-------|--------------|--------------|--------|------------|
| | | Diam. | Length | |
| MR-15 | 1/2 x 3/8 | 5/8 | 1-1/2 | \$1.00 |

Bantam "Supersockets" 3/8" Square Drive



B-1214 to
B-1218

| No. | 12-Point Opening | Diameter | | List Price |
|--------|------------------|----------|-------|------------|
| | | Nose | Base | |
| B-1214 | 7/16 | 39/64 | 21/32 | \$.72 |
| B-1216 | 1/2 | 11/16 | 11/16 | .72 |
| B-1218 | 9/16 | 49/64 | 49/64 | .72 |

†Packing Gland Nut "Supersockets" 9/32" Square Drive



MR-2 to
MR-10

| No. | Size Prongs | | Diameter | | List Price |
|-------|-------------|-------|----------|---------|------------|
| | Depth | Width | Inside | Outside | |
| MR-2 | 3/32 | 5/64 | 21/64 | 7/16 | \$.75 |
| MR-4 | 3/32 | 1/8 | 21/64 | 15/32 | .75 |
| MR-6 | 3/32 | 7/64 | 21/64 | 9/16 | .75 |
| MR-8 | 1/8 | 1/8 | 29/64 | 11/16 | .75 |
| MR-10 | 3/32 | 5/64 | 9/10 | 13/16 | .75 |

† All 1-1/2" long.

HANDLES AND PARTS

| No. | Piece | List | No. | Piece | List |
|-------|--|--------|--------|--|--------|
| B-51A | Reversible "Superratchet" — 6-1/2" long. Ratchet drives in head, 3/8" sq. male and 1/4" sq. female. Also, in end of handle, 3/16 and 1/4" sq. openings for delicate adjustment of valves. 24 teeth in ratchet-gear instead of usual 14 or 16. Turning Shift-lever reverses action instantly. | \$4.50 | M-20A | Sliding T Handle—4-1/2" long; 9/32" square male drive. | \$1.02 |
| | | | B-110 | Extension—6-1/2" long; 3/8" square drive, male and female. | 1.08 |
| | | | M-115 | Extension—6" long; 9/32" square drive, male and female. | 1.08 |
| | | | MM-150 | Plug Adapter—1" long; 1/4" square and 9/32" square. | .60 |

For Additional Refrigeration Wrenches see page 45.

For Refrigeration Wheel Puller see page 73.

★ REGISTERED TRADE MARK

WILLIAMS' "SUPERSOCKET" WRENCHES

Chrome plated over Nickel

BANTAM PATTERN—3/8" Square Drive

DISPLAY CABINET No. 300

DISCONTINUED
FOR "THE DURATION"



Assortment
contains
56 Sockets
34 Accessories
Total Weight, 44 lbs.

Extreme
Size of Cabinet
26 3/4" high
15 1/2" wide
10" deep

LIST PRICE—Complete \$114.30

This attractive "Silent Salesman" adds to your sales force, but not to your payroll. It is made of heavy metal and is sturdier and more durable than ordinary cabinets.

"Bantam" Straight Wall 12-point Sockets, 1/4 to 3/4" openings, with a wide variety of Handles and Parts, care for all needs in 3/8" square drive Socket Wrench combinations. Each compartment in the drawers is labeled to show the sizes of Sockets it contains. A convenient, efficient aid to increased sales at minimum cost.

Straight Wall Sockets — CONTENTS OF CABINET — Handles and Parts

| Size Opening | No. | Quantity | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Hd. Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGLR. Nut; Size Bolt | No. | Piece | Quantity |
|--------------|--------|----------|---|---|--|----------------------------------|--------|---|----------|
| 1/4 | B-608 | 6 | ..... | ..... | ..... | †No. 4 | F-15 | Speeder—16 1/2" long, with knurled revolving grip..... | 3 |
| 5/16 | B-1210 | 6 | 1/8 | 1/8 | ..... | †5 & 6 | B-20A | Sliding T Handle—6 1/2" long..... | 3 |
| 11/32 | B-1211 | 6 | ..... | ..... | ..... | †8 | B-30 | Offset Handle—7 3/4" long..... | 3 |
| 3/8 | B-1212 | 6 | ..... | 3/16 | ..... | †10 | B-40 | Flex Handle—8 1/2" long; flexible head, knurled grip with 3/8" drive-hole in end..... | 3 |
| 7/16 | B-1214 | 6 | ..... | 1/4 | 1/4 | 1/4 | B-50 | Ratchet—6 1/2" long..... | 2 |
| 1/2 | B-1216 | 6 | 1/4 | 5/16 | 5/16 | ..... | B-51 | REVERSIBLE Ratchet—6 1/2" long. 24 teeth in Ratchet-gear instead of usual 16..... | 2 |
| 9/16 | B-1218 | 6 | ..... | 3/8 | 3/8 | 5/16 | B-108 | Extension Bar—3" long..... | 3 |
| 5/8 | B-1220 | 6 | ..... | 7/16 | 7/16 | 3/8 | B-110 | Extension Bar—5 3/4" long..... | 3 |
| 11/16 | B-1222 | 4 | 3/8 | ..... | ..... | ..... | B-115 | Extension Bar—10 1/4" long..... | 3 |
| 3/4 | B-1224 | 4 | 1/2 | 1/2 | 7/16 | 7/16 | BS-130 | Adapter—3/8" square Female, 1/2" square Male..... | 3 |
| | | | | | | | BS-131 | Adapter—3/8" square Male; 1/2" square Female..... | 3 |
| | | | | | | | B-140 | Universal Joint..... | 3 |

† With Hex Opening.

† Machine Screw Nuts.

(For Bantam "Supersockets" and Parts, see page 50)

★ REGISTERED TRADE MARK

11 42

WILLIAMS' "SUPERSOCKET" WRENCHES

Chrome-plated over Nickel
STANDARD PATTERN—1/2" Square Drive
DISPLAY CABINET No. 600



Assortment
contains
144 Sockets
35 Accessories
Total Weight
130 lbs.

Extreme
Size of Cabinet
33 3/4" high
20 1/2" wide
11" deep

LIST PRICE—Complete \$243.30

This Cabinet is a miniature store in itself, providing most attractive display as well as handy storage for Williams' Socket Wrenches. The assortment includes Regular, Straight Wall and Extra Deep 12-point Sockets 7/16 to 1 1/4" and Square Sockets 5/16 to 1"—a sufficient spread to cover practically all popular needs. The variety of Handles and Parts provides wide selection in the type of Socket Wrench combination desired.

Made of heavy metal that will hold its shape—much better quality than ordinary cabinets. Each compartment in the drawers is labeled showing the size of Sockets in same.

Sockets — CONTENTS OF CABINET — Handles and Parts

| Size Opening | Straight Wall 12-Point | | Extra Deep 12-Point | | Square | | No. | Pier | Quan- tity |
|-----------------|---------------------------|---------------|------------------------|---------------|--------|---------------|--------|---|---------------|
| | No. | Quan- tity | No. | Quan- tity | No. | Quan- tity | | | |
| 5/16 | ST-1214 | 8 | SD-1216 | 1 | S-410 | 3 | S-10 | Short Speeder—14 1/2". Knurled revolving grip... | 2 |
| 3/8 | ST-1216 | 8 | SD-1218 | 1 | S-412 | 3 | S-15 | Long Speeder—17 1/2". Knurled revolving grip... | 2 |
| 7/16 | ST-1218 | 8 | SD-1220 | 1 | S-414 | 3 | S-20A | Sliding T Handle—11" | 3 |
| 1/2 | ST-1219 | 8 | SD-1222 | 1 | S-416 | 3 | S-40 | Flex Handle—12" long; flexible head. Knurled grip with 1/2" square drive hole in end—may be used as Extension. | 3 |
| 9/16 | ST-1220 | 8 | SD-1224 | 1 | S-418 | 3 | S-41 | Flex Handle—17 1/4" long. Similar to S-40, but has 1/2" round cross hole in grip for bar. | 3 |
| 19/32 | ST-1221 | 4 | SD-1226 | 2 | S-420 | 2 | S-50 | Ratchet—10" long, complete with Locked-in Plug- Connector. | 1 |
| 5/8 | ST-1222 | 8 | SD-1228 | 1 | S-422 | 2 | S-51 | REVERSIBLE Ratchet—10 1/2" long. 24 teeth in Ratchet-gear instead of usual 16. Turning Shift-lever reverses action instantly. | 2 |
| 21/32 | ST-1223 | 8 | SD-1230 | 1 | S-424 | 2 | S-110P | Short Extension—5 1/2" long. | 3 |
| 11/16 | ST-1224 | 8 | SD-1232 | 2 | S-428 | 2 | S-115P | Long Extension—10 1/2" long. | 3 |
| 3/4 | ST-1225 | 6 | SD-1236 | 2 | S-432 | 2 | S-140 | Universal Joint. | 3 |
| 25/32 | ST-1226 | 6 | SD-1240 | 3 | | | SB-30 | Drag-Link Socket Bit—Size Blade, 7/32 x 15/16". | 2 |
| 13/16 | ST-1228 | 6 | | | | | SB-40 | Drag-Link Socket Bit—Size Blade, 3/16 x 1 1/4". | 2 |
| 7/8 | ST-1230 | 6 | | | | | BS-130 | Adapter—3/8" sq. female and 1/2" sq. male. | 2 |
| 7/8 | ST-1232 | 6 | | | | | BS-131 | Adapter—3/8" sq. male and 1/2" sq. female. | 2 |
| 15/16 | ST-1234 | 6 | | | | | SH-130 | Adapter—1/2" sq. female and 3/4" sq. male. | 2 |
| 31/32 | ST-1236 | 6 | | | | | | Adapts "Standard" Handles and Parts to "Heavy Duty" Sockets. | 2 |
| 1 1/16 | ST-1238 | 3 | | | | | | | |
| 1 1/8 | ST-1240 | 3 | | | | | | | |
| 1 3/16 | | | | | | | | | |
| 1 1/4 | | | | | | | | | |

* Sockets with Taper Nose.

(For Standard "Supersockets" and Parts, see pages 52 and 53)

★ REGISTERED TRADE MARK

DISPLAY STAND
FOR
WILLIAMS' + "SUPERSOCKET" WRENCH SETS



*Every "SUPERSOCKET" and Accessory is
Fully Guaranteed*

This compact stand 30" wide and 60" high, provides a most attractive and convenient means of displaying the most popular Williams' "Supersocket" Sets.

A convenient rack for holding literature describing them is provided on the back of the panel at the top.

The stand, mounted on casters, is made entirely of metal, enameled in orange. The panel at the top is lettered in black and gold. The rich orange of the stand makes a pleasing contrast to the dark gray of the boxes with their labels in gold, black and orange.

This display is a real "Silent Salesman"—dealers find it a very efficient aid. It is loaned only for the display of Williams' "Supersocket" Sets.

✦ REGISTERED TRADE MARK

11-42

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

WILLIAMS' "SUPERSOCKET" WRENCHES

Chrome-plated over Nickel

IMPROVED WRENCH SETS FOR HOLLOW-SCREWS

SET No. AL-100

This Set of Williams' detachable "Supersocket" Bits and Parts provides especially efficient wrenches for all popular hollow (hex socket) set screws and cap screws; see table.

Replacing old type L-shape wrenches, bent from hex bar steel, these tools provide all the advantages of the Detachable Socket Wrench system for users of Hollow-Screws.

Detachable "Bits," with projecting hex plug, are substituted for conventional detachable sockets. Only Williams' Bits have knurled end for fast spinning of screws before tightening them with handle, or driver.

Flex Handle M-42 supplies all the convenience and advantages of a handle with flexible head. With Bar inserted it becomes a Sliding T Handle, with long shank for reaching buried screws.

"Superratchets" B-51 and S-51, instantly reversible, are rugged, drop-forged tools without delicate springs, or other fragile construction. Operate in one-third less space than conventional ratchets.

Bits and Parts, made from alloy steel, are heat-treated in electric furnaces. They interchange in Williams' regular Bantam and Standard "Supersocket" lines.



LIST PRICE, Complete—19 Pieces—\$25.00
In Fitted Steel Case, 13 x 7-1/2 x 1-3/4"
Total Weight, 10 lbs.

CONTENTS OF SET No. AL-100

| 10 "SUPERSOCKET" BITS | | | | | | No. | 9 HANDLES and PARTS | LIST |
|-----------------------|-----------------|-----------|------------|-------------------|------------|--------|--|--------|
| Bit No. | Hex. Plug, Size | Sq. Drive | LIST PRICE | For Hollow Screws | | | | |
| | | | | Set Screw | Cap Screw | | | |
| AM-604 | 1/8 | 9/32 | \$.60 | 1/4 | No. 8 | B-20A | Sliding T Handle—6-1/2" long... | \$1.35 |
| AM-605 | 5/32 | 9/32 | .60 | 5/16 | 10 & 12 | B-51 | Reversible "Superratchet"—6-1/2". Reverses instantly..... | 4.50 |
| AM-606 | 3/16 | 9/32 | .60 | 3/8 | 1/4 | B-110 | Extension—5-1/2" long..... | 1.08 |
| AM-607 | 7/32 | 9/32 | .60 | 7/16 | 5/16 | BM-130 | Adapter—3/8" Square Female and 9/32" Square Male..... | .90 |
| AB-608 | 1/4 | 3/8 | .75 | 1/2 & 9/16 | | M-42 | Flex Handle only—5-1/2" long; flexible head, knurled grip, cross hole for Sliding Bar..... | 1.40 |
| AB-610 | 5/16 | 3/8 | .75 | 5/8 | 3/8 & 7/16 | Bar | Sliding Bar—4-1/2"; for M-42.... | .25 |
| AS-612 | 3/8 | 1/2 | .85 | 3/4 | 1/2 & 9/16 | S-20A | Sliding T Handle—11" long..... | 2.10 |
| AS-616 | 1/2 | 1/2 | .85 | 7/8 | 5/8 | S-51 | Reversible "Superratchet"— 10-1/2". Reverses instantly.... | 6.75 |
| AS-618 | 9/16 | 1/2 | .85 | 1 & 1 1/8 | 3/4 & 7/8 | S-110P | Extension—5-1/2" long..... | 1.20 |
| AS-620 | 5/8 | 1/2 | .85 | 1 1/4 & 1 3/8 | 1 | | | |

★ REGISTERED TRADE MARK

SUPERIOR DROP-FORGINGS **WILLIAMS** **AND DROP-FORGED TOOLS**

THE NEW WILLIAMS'
TORQUE "MEASURRENCH" No. S-57
REVERSIBLE RATCHET WITH R. H. TORQUE INDICATING SIGNAL
Standard Pattern—1/2" Square Drive



PATENTED

LIST PRICE, Complete—\$26.00

Closely limited torque application is essential in automotive, aviation and Diesel motors; also for many industrial appliances. Such fine adjustments make an efficient indicator of torque a vital necessity in modern practice. "Measurrench" solves the problem *wherever* limited and equal tension is required on nuts, bolts, studs, etc. Designed especially for use with Williams' Standard "Supersockets", but can be applied to any detachable socket having 1/2" square drive opening.

Williams' Ratchet Torque "Measurrench" is the most efficient and durable tool for torque indicating service on the market. It combines new mechanical features with Williams' standards of superior quality and design, resulting in an unusually strong, effective tool at moderate price.

Wrench may be used in two ways, as below:—

By Sight Reading—An easily read scale on the handle indicates applied tightening pressures from 20 to 200 foot-pounds.

By Sound Reading—A sharp sound signal is given for any desired torque from 35 to 200 foot-pounds, by setting the simple sound device.

Accuracy does not depend on delicate gears, levers, or dials, but upon rugged sections of high tensile steel. Although right hand torque only is measured, the wrench action reverses for left hand turning.

Simple in design and sturdy in construction, the reversible ratchet mechanism is a highly desirable feature. The 36-tooth ratchet wheel, with

Williams' twin double-tooth, oscillating pawl provides constant engagement with TWO teeth of ratchet-gear in both ON and OFF rotation of nuts.



It makes possible the unusually short operating swing of only 1/30 of a full turn; obstruction hazards are reduced to the minimum. The wrench action is instantly reversed by a mere flip of the shifter, which is flush with the head.

The well balanced drop-forged handle, with specially designed grip, is 19-1/2" long for ample leverage; the head is exceptionally compact and free from protrusions, for easy use in close places.

Every part is made of alloy and high tensile steel, accurately machined and heat-treated. Chrome-plated, with entire top and sides of head and calibrated bar buffed; handle, "satin" chrome. Packed in individual cardboard box.

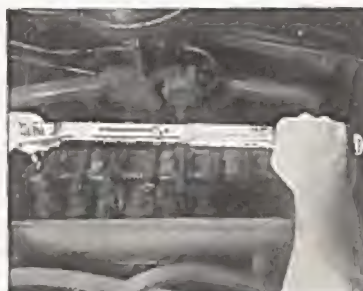
With each wrench is supplied a chart giving the foot-pounds tension to be applied on cylinder heads, connecting rods, main bearings, etc. This data covers all popular cars and trucks, as recommended by their manufacturers.

USE WILLIAMS' TORQUE "MEASURRENCH"

FOR
 limiting torque in tightening
 nuts and bolts in DIE CAST
 ALLOY METAL PARTS.



FOR
 accurately following MANU-
 FACTURERS' SPECIFIED
 TENSIONS.



FOR
 all applications which require
 EQUAL TENSION ON NUTS,
 STUDS, BOLTS, ETC.

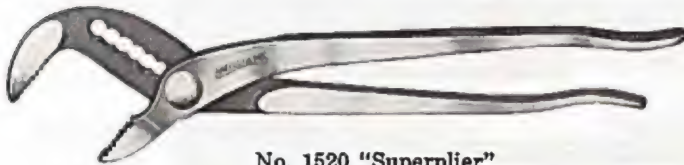


For full line of Standard Sockets and Parts, see pages 52 and 53

★ REGISTERED TRADE MARK

11-42

WILLIAMS' PLIERS



No. 1520 "Superplier"



No. 1519 "Superplier"



Nos. 5 to 10



No. 36



No. 46



No. 57



Nos. 76 and 77

"SUPERPLIERS" (Slip-Joint)

These "Superpliers" have thin, narrow jaws for use in extremely close places and are drop-forged from tough Chrome-Alloy steel. The bolt provides the greatest strength and rigidity possible in thin, slip-joint construction.

Midget No. 1519, 4-position joint opens 0 to 9/16", with jaws parallel at the most important openings. Efficient for wiring, panel, switchboard, radio, and other delicate work. Cadmium-plated.

Standard No. 1520 is long and slim; 8-position joint opens 0 to 2". Knurled handles provide firm hand grip. Gray satin finish, faces polished.

| No. | Length | LIST PRICE |
|------|--------|------------|
| 1519 | 4-1/2 | \$1.85 |
| 1520 | 9-1/2 | 2.20 |

NEEDLE NOSE SIDE-CUTTING PLIERS

Long thin for close quarters, with side-cutting jaws. Knurled handles, blue, head polished bright.

| No. | Length | LIST PRICE |
|-----|--------|------------|
| 76 | 6 | \$2.40 |
| 77 | 7 | 2.70 |

Weights, page L.

COMBINATION PLIERS (Slip-Joint)

This line of Combination Pliers, with 2-position slip-joint, is very efficient for general service. All are sturdy, well designed tools. Drop-forged from special steel, with knurled handles; polished and nickel-plated.

The Combination Plier No. 36 is equipped with durable side cutting jaws.

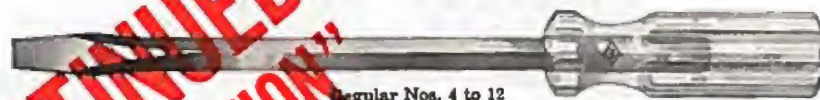
| No. | Pattern | Length | LIST PRICE |
|-----|--------------|--------|------------|
| 5 | Regular | 5 | .65 |
| 6 | " | 6 | .70 |
| 8 | " | 8 | .90 |
| 10 | " | 10 | 1.25 |
| 36 | Side-Cutting | 6 | .90 |

DIAGONAL CUTTING PLIERS

Mechanics and Electricians find many varied uses for these rugged tools. They are drop-forged from special tough steel; cutting-edge is made for lasting service. No. 46 has knurled handles; full polished finish. No. 57 has broader and more powerful jaws for heavy duty; head polished.

| No. | Pattern | Length | LIST PRICE |
|-----|------------|--------|------------|
| 46 | Regular | 6 | \$1.25 |
| 57 | Heavy Duty | 7 | 2.30 |

WILLIAMS' SCREW DRIVERS



Regular Nos. 4 to 12



Regular Nos. 24 to 32



Electricians' Nos. 48 to 50



Regular Stubby No. 62



Pocket No. 52



Phillips Stubby No. WP-62



Phillips Nos. WP-1 to WP-4



Phillips No. CP-4

Williams' Regular, Electricians', Pocket and Stubby (adjusting) Screw Drivers are all fitted with handles of a tough transparent composition, an insulator of electricity. Fluted for sure, comfortable grip. The blades, hardened and tempered throughout their entire length, are solidly anchored in the handles.

Regular patterns are available with either square or round blades. Electricians' have round blades and the Stubby a square blade. The Pocket has round blade and is fitted with pocket clip, as illustrated.

FOR PHILLIPS SCREWS

Williams' Screw Drivers, Nos. WP-1 to WP-4, will fit the entire range of Phillips recessed-head screws. These, and the Phillips Stubby (adjusting), Screw Driver have round chrome-alloy blades, hardened and tempered, that are securely anchored in superior hard wood, fluted handles.

The No. CP-4 Phillips Screw Driver has a transparent composition handle and a blade that is hexagon for more than half of its length. This permits the use of a wrench for added leverage.

All Screw Drivers packed 6 in cardboard box, excepting No. 52, 12 per box.

REGULAR—SQUARE BLADE—COMPOSITION HANDLE

| No. | Blade Length | Stock Size | Tip Width | Price |
|-----|--------------|------------|-----------|--------|
| 4 | 4 | 1/4 | 5/16 | \$1.05 |
| 6 | 6 | 5/16 | 5/16 | 1.40 |
| 6B | 6 | 3/8 | 3/8 | 1.55 |
| 8 | 8 | 3/8 | 3/8 | 1.75 |
| 12 | 12 | 3/8 | 3/8 | 2.10 |

REGULAR—ROUND BLADE—COMPOSITION HANDLE

| | | | | |
|----|----|------|------|--------|
| 24 | 4 | 1/4 | 1/4 | \$.95 |
| 26 | 6 | 5/16 | 5/16 | 1.30 |
| 28 | 8 | 3/8 | 3/8 | 1.60 |
| 32 | 12 | 3/8 | 3/8 | 1.95 |

ELECTRICIANS'—Round Blade—Composition Handle

| | | | | |
|----|----|------|------|--------|
| 43 | 3 | 3/16 | 3/16 | \$.75 |
| 46 | 6 | 3/16 | 3/16 | .95 |
| 50 | 10 | 3/16 | 3/16 | 1.10 |

POCKET (with Clip)—Round Blade—Composition Handle

| | | | | |
|----|-------|-----|-----|-----|
| 52 | 2-1/4 | 1/8 | 1/8 | .32 |
|----|-------|-----|-----|-----|

REGULAR STUBBY (Adjusting)—Composition Handle

| | | | | |
|----|-------|-----|------|-----|
| 62 | 1-1/2 | 1/4 | 5/16 | .65 |
|----|-------|-----|------|-----|

PHILLIPS—Wood Handle

| No. | Fits Screws No. | Blade Length | Stock Size | Price |
|------|-----------------|--------------|------------|-------|
| WP-1 | 4 and Smaller | 3 | 9/64 | .60 |
| WP-2 | 5 to 9 incl. | 4 | 1/4 | .65 |
| WP-3 | 10 to 16 incl. | 6 | 5/16 | .75 |
| WP-4 | 18 and larger | 8 | 3/8 | .95 |

PHILLIPS—COMPOSITION HANDLE

| | | | | |
|------|---------------|---|-----|------|
| CP-4 | 18 and larger | 8 | 3/8 | 2.30 |
|------|---------------|---|-----|------|

PHILLIPS STUBBY (Adjusting)—WOOD HANDLE

| | | | | |
|-------|--------------|-------|-----|-----|
| WP-62 | 5 to 9 incl. | 1-1/2 | 1/4 | .55 |
|-------|--------------|-------|-----|-----|

PHILLIPS SCREW DRIVER SET NO. WP-14



LIST PRICE, \$2.95

Complete In
Cardboard Box

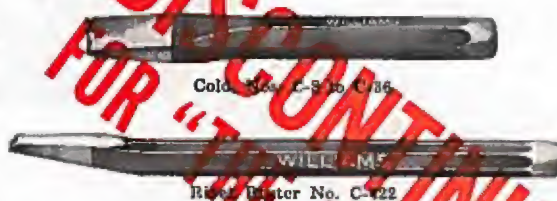
This Set of four Phillips Screw Drivers consists of one each of Numbers WP-1, WP-2, WP-3, and WP-4, packed in a cardboard box. This combination covers the entire range of Phillips Screws. Their round, chrome-alloy blades are securely anchored in superior hard wood, fluted handles.

WILLIAMS' PUNCHES and CHISELS



Williams' Punches are forged from high grade octagon alloy steel, properly hardened and tempered to stand up under the most severe service. Body finished in black, with the taper and head full polished. Packed 6 in cardboard box.

| No. | Point Diam. | Stock Size | Length | List Price |
|---------------------------|-------------|------------|--------|------------|
| PIN PUNCHES | | | | |
| P-4 | 1/8 | 3/8 | 6 | \$.54 |
| P-6 | 3/16 | 1/2 | 6 | .62 |
| P-8 | 1/4 | 5/8 | 8 | .77 |
| SOLID PUNCHES | | | | |
| P-13 | 3/32 | 1/2 | 6 | .62 |
| P-14 | 1/8 | 1/2 | 8 | .77 |
| LONG TAPER PUNCHES | | | | |
| P-25 | 5/32 | 3/8 | 9 | .75 |
| P-26 | 3/16 | 1/2 | 10 | .85 |
| PRICK PUNCH | | | | |
| P-30 | | 3/8 | 5 | .45 |
| CENTER PUNCH | | | | |
| P-40 | | 3/8 | 5 | .45 |



COLD, or FLAT CHISELS

Williams' Chisels, of high grade octagon alloy steel, are carefully forged, hardened and tempered. Ample hard for work on tempered material, yet soft enough to minimize chipping and to permit resharpening with a file. Body finished in black with full polished bit and head. Packed 3 in cardboard box, excepting No. C-36, 3 in a box.

RIVET BUSTER

Designed especially for cutting off hardened rivet heads. A great time saver when used for this purpose, instead of the ordinary chisel. Packed 3 in a box.

| No. | Width of Cut. | Stock Size | Length | List Price |
|------------------------------|---------------|------------|--------|------------|
| COLD, or FLAT CHISELS | | | | |
| C-8 | 1/4 | 1/4 | 4 3/4 | \$.54 |
| C-12 | 3/8 | 3/8 | 5 1/2 | .62 |
| C-16 | 1/2 | 1/2 | 6 | .73 |
| C-20 | 5/8 | 5/8 | 6 1/2 | .85 |
| C-24 | 3/4 | 3/4 | 7 | 1.05 |
| C-36 | 1 1/8 | 1 | 8 | 1.65 |
| RIVET BUSTER | | | | |
| C-422 | 11/16 | 3/4 | 12 | 1.65 |

WILLIAMS' WHEEL PULLER No. 5
FOR REFRIGERATION SERVICE

This Williams' Wheel Puller is a simple efficient tool developed for the many pulling jobs in Refrigeration Service, such as flywheels, fans and pulleys. It can also be used for many pulling jobs on electric motors, etc.

The body, forged from high tensile steel, has four sockets into which either two or all three of the arms may be placed in various positions, providing a combination of grips. Flywheels with even or odd numbers of spokes are pulled with equal ease. All three arms are necessary for odd-spoked wheels, while only two are needed for an even number of spokes. The pulling capacity is 7" diameter.

Easily adjusted arms, processed from alloy steel, are held in place by an endless spring. They are instantly reversible by merely turning the arm in the socket for either internal or external pulling. This feature eliminates the need of removing or repositioning the arms.

The hex head of the power screw, on which any convenient wrench can be used, has a knurled band to facilitate rapid hand turning. Its cone point fits into the center-hole of the shaft end.

For Refrigeration Wrenches see page 45. For Refrigeration "Supersocket" Set see page 55.



PATD.

* LIST PRICE
Complete—\$12.25

| No. | Capacity Diameter | Body Diameter | Length Arms | *List Prices, Puller and Extra Parts | | | | |
|-----|----------------------|------------------|----------------|--------------------------------------|--------|--------|----------|-----|
| | | | | Arms Each | Screw | Spring | Complete | No. |
| 5 | 7 | 3 1/4 | 4 1/4 | \$2.25 | \$3.20 | \$.65 | \$12.25 | 5 |

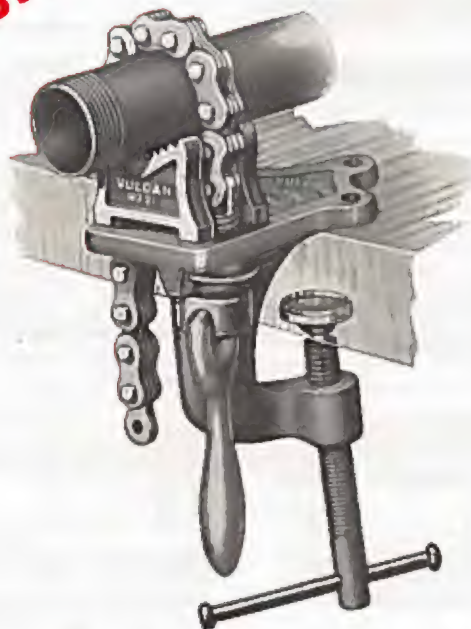
Weights, page L.

*Subject to Liberal Discount.

WILLIAMS' + "VULCAN"
CLAMP KIT VISE NO. 21

For Pipe 1/8 to 2 inches

**TO BE DISCONTINUED
WHEN PRESENT STOCK
IS EXHAUSTED**



"Small in size—
Great Otherwise"

LIST PRICE, \$9.60

**RAPID ACTION
POSITIVE GRIP
RIGID
COMPACT
LIGHT**

This Clamp Kit Vise can be readily and firmly attached to bench, post, or other support without the use of bolts, or screws. Easily carried; weighs only 5-3/4 lbs.

The clamping device is very efficient. The clamp member is integral with the base; the clamp-screw, set at a slight forward angle (as illustrated), carries a swivel with thin V lip projecting from its upper edge. Consequently, the Vise can be securely and rigidly attached to support.

The drop-forged jaws are saw-tempered for file-sharpening. Chains are of the same superior quality as those in Williams' "Vulcan" Tongs. Jaws, chain, nut and handle are interchangeable with similar parts of "Vulcan" Vise No. 1.

Packed one in a box for convenient shelving.

Orders for Chains take Screw also, unless otherwise specified.

| No. | For Pipe, Sizes | Weight Each, Lbs. | LIST PRICES, VISES and EXTRA PARTS | | | | | | | No. |
|-----|-----------------|-------------------|------------------------------------|------------|------------------|------------------|-----------------|----------|----------------------|-----|
| | | | Vise, Complete | Jaws, Pair | Chain with Screw | Chain Screw Only | Handle with Nut | Nut Only | Clamp Screw & Swivel | |
| 21 | 1/8 to *2" | 5 3/4 | \$9.60 | \$3.00 | \$2.50 | \$.80 | \$2.20 | \$1.40 | \$2.00 | 21 |

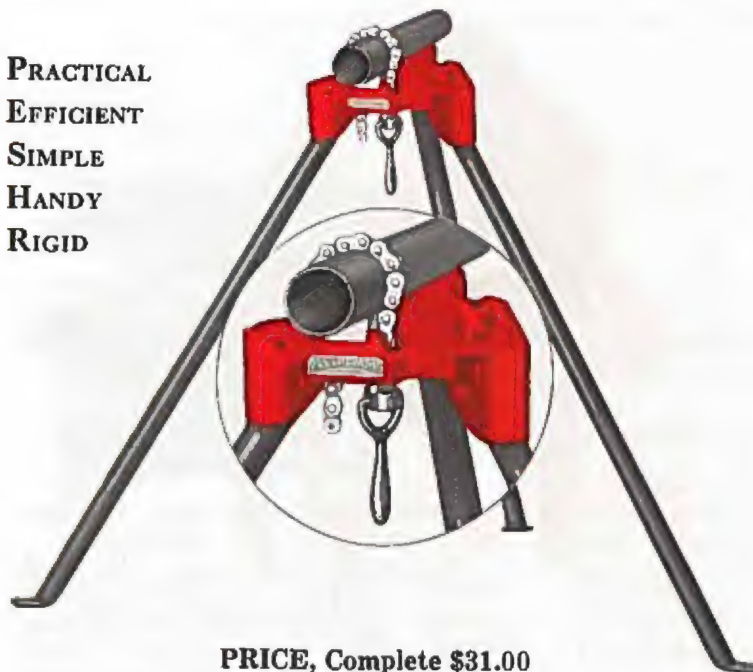
*Will grip pipe fittings not larger in diameter than 2 1/2" pipe.

11-42

† REGISTERED TRADE MARK

3-IN-1
WILLIAMS' + "VULCAN" VISE STAND NO. V-1
VISE—STAND—PIPE BENDER

PRACTICAL
EFFICIENT
SIMPLE
HANDY
RIGID



PRICE, Complete \$31.00
Stand—Vise—Pipe Bender

Folded for
carrying—
Weight
35 lbs.



Williams' "Vulcan" Vise Stand combines all the advantages of the Chain Pipe Vise with a firm and rigid, yet easily portable stand. It is a most efficient tool for all pipe, 1/8 to 2 inches, at very moderate price.

Base (high grade malleable iron) is heavily reinforced under the aprons to prevent distortion in severe service. In addition to "V" pipe support in rear, recess for oil can and slots for handy arrangement of tools are provided.

Pipe Bender handles pipe up to 3/4 inch.

Legs are 1" pipe, with upset feet, punched for fastening to floor, if desired. Even without such fastening, they provide firm, stable support. For easy carrying, the legs fold and may be tied together by a permanently attached chain (see illustration).

Jaw—tool steel, carefully hardened and tempered—grips along its entire length. No bending of the smaller sizes of pipe.

Chain, Nut and Handle are of tough wrought steel. All three are the same as and are interchangeable with those supplied with Williams' "Vulcan" Vise No. 1—the original Chain Pipe Vise and the favorite for over 40 years.

All parts of Vise Stand are interchangeable.

| Vise Stand No. | For Pipe Sizes | Weight, Complete | LIST PRICES, STAND COMPLETE and VISE PARTS | | | | | | Nut Only |
|----------------------|-------------------|---------------------|--|-------------|------------------------|------------------------|-----------------------|----------------|-------------|
| | | | Stand, Complete | Jaw Only | Chain with Screw | Chain Screw Only | Handle with Nut | Handle Only | |
| V-1 | 1/8 to *2" | 35 lbs. | \$31.00 | \$3.20 | \$2.50 | \$.80 | \$2.20 | \$1.50 | \$1.40 |

* Will grip pipe fittings not larger in diameter than 2 1/4" pipe.

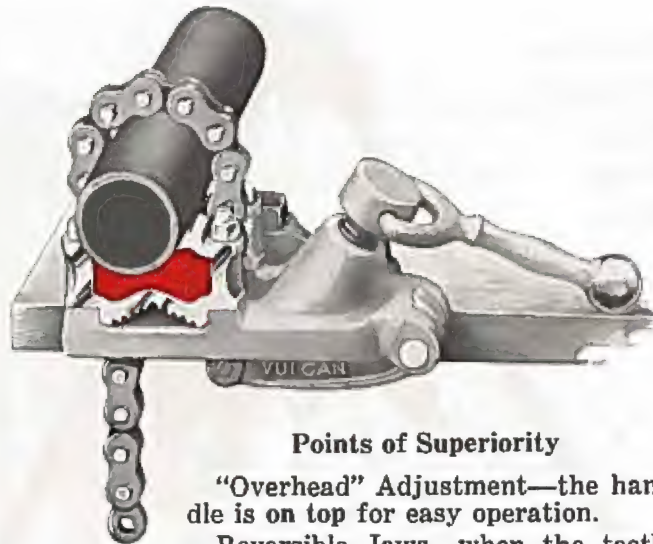
+ REGISTERED TRADE MARK

WILLIAMS' + "VULCAN SUPERIOR"
DROP-FORGED CHAIN PIPE VISE



METAL DISPLAY STAND

Supplied with short length of pipe and bolts and nuts for attaching vise No. 11. Space in base for circulars. Stand finished in bright orange. One in a carton; weight 6-3/4 lbs. Free to Dealers.



Points of Superiority

"Overhead" Adjustment—the handle is on top for easy operation.

Reversible Jaws—when the teeth first in use wear, simply remove the screws and turn the jaws over—double life.

Larger Capacity—each vise takes pipe 1/2" larger than other chain vises of similar size.

The "Vulcan Superior" Vise provides all the reliability of Williams' old "Vulcan"—the ORIGINAL Chain Pipe Vise and the favorite for more than 30 years—together with the convenience of "overhead" adjustment. Reversible jaws, too, for longer life.

Wholly made from tough wrought steel—no castings are tolerated. Drop-Forged base, jaws, handle and chain-arm. The chains are of the same unsurpassed quality as those of the widely established "Vulcan" Chain Pipe Tongs. Unbreakable, rapid in action, positive in grip. Fully guaranteed.

Supplied in 2 styles of finish—see table. Packed one in a box.

Chrome-plated will be furnished, unless otherwise specified

| No. | For Pipe, Sizes | Wt. Each, Lbs. | Jaws, Pair | Chain, without Arm | Screw | Handle with Screw | Chain Arm | WISE Complete | No. |
|---|-----------------|----------------|------------|--------------------|--------|-------------------|-----------|---------------|-----|
| * Price, Chrome-plated Finish, Edges of Jaws Bright | | | | | | | | | |
| * 11 | 1/8 to 2 1/2 | 7 | \$4.00 | \$2.20 | \$1.15 | \$2.80 | \$1.40 | \$12.00 | 11 |
| * 12 | 1/4 to 4 1/2 | 15 | 9.00 | 4.00 | 1.65 | 4.15 | 2.25 | 22.00 | 12 |
| Price, Standard Finish—Shot-blasted, Orange Panel in Jaws | | | | | | | | | |
| 11 | 1/8 to 2 1/2 | 7 | \$3.30 | \$2.00 | \$1.00 | \$2.35 | \$1.20 | \$10.00 | 11 |
| 12 | 1/4 to 4 1/2 | 15 | 7.70 | 3.60 | 1.45 | 3.50 | 1.85 | 19.00 | 12 |

† REGISTERED TRADE MARK

11-42

WILLIAMS' GENUINE + "VULCAN"
THE ORIGINAL
DROP-FORGED CHAIN PIPE VISE

For Holding Pipe, Bolts, Bars, Shafts, etc., from 1/8 to 8 inches in Diameter



Standard Finish—
jaws have bright
face around panel.

METAL
DISPLAY STAND

Supplied with short
length of pipe and
bolts and nuts for
attaching vise No. 1.
Space in base for cir-
culars. Stand finished
in bright orange. One
in a carton; weight
4 lbs. Free to Dealers.



These Vises are unbreakable, light, compact, rapid in action and positive in gripping pipe. All are readily fastened to bench or post. The smaller sizes are well adapted for carrying by hand or in tool bag.

Adjustment is quickly effected by engaging the projecting rivets of the chain with a series of stepped bosses on the base, when the vise may be instantly locked in an unbreakable grip by a turn of the handle.

They are made entirely of wrought steel; the drop-forged jaws are of saw-tempered steel for file-sharpening. The chains are of same quality as those of our "Vulcan" Chain Pipe Tongs; all parts are fully guaranteed and replacements carried in stock.

All Vises are packed in individual boxes for convenient shelving. Six of Nos. 1 and 2 boxes to a carton.

Orders for Chains take Screw also, unless otherwise specified.

| No. | For Pipe, Sizes | Size, Folded for Packing | Wgt. Each, Lbs. | List Prices, Vises and Extra Parts | | | | | | | No. |
|-----|--------------------|-----------------------------|-----------------------|------------------------------------|------------------------|--------|-----------------------|----------------|--------|-----------------------|-----|
| | | | | Jaws Pair | Chain with Screw | Screw | Handle with Nut | Handle Only | Nut | Vise Com- plete | |
| 1 | 1/8 to *2 | 4 x 5 x 6 | 4 | \$ 3.00 | \$ 2.50 | \$.80 | \$2.20 | \$1.50 | \$1.40 | \$ 7.00 | 1 |
| 2 | 1/4 to 4 | 6 x 8 x 8 | 10 | 7.00 | 4.80 | 1.40 | 4.20 | 3.00 | 2.70 | 15.00 | 2 |
| 3 | 1/2 to 6 | 8 x 9 x 11 | 18 | 12.00 | 9.00 | 2.50 | 7.00 | 5.00 | 4.00 | 27.00 | 3 |
| 4 | 1/2 to 8 | 8 x 10 x 12 | 30 | 18.00 | 12.00 | 2.50 | 7.00 | 5.00 | 4.00 | 36.00 | 4 |

*Will grip pipe fittings not larger in diameter than 2-1/2" pipe.

✦ REGISTERED TRADE MARK

FLAT LINK CHAINS

FOR ALL WILLIAMS' "VULCAN" CHAIN PIPE TONGS

THREE TYPES

1. STANDARD



Plain links without any markings as illustrated. Natural, tumbled steel finish.

2. "XTRA-STRONG"



Marked on first flat link as illustrated. Finished black all over.

3. + "SUPERCHAIN"




Identified by markings stamped on each link as illustrated. Finished completely in cadmium-plate.

There are three different types of Flat Link Chains for Williams' Tongs—STANDARD, "XTRA-STRONG" and "SUPERCHAIN."

1. **Standard Chains** are made of special high tensile carbon steel and each is proof-tested as described below. Standard chains are interchangeable, size for size, on the following Tongs with which they are furnished as original equipment: "Vulcan," "Improved Vulcan," "Vulcan Superior" and "Vulcan Boll-Weevil." Standard Chains should *not* be used with "Supertongs," or with the "Boll-Weevil Zephyr."

2. **"Xtra-Strong" Chains** are made from special high tensile carbon steel, heat-treated to give approximately 40% more strength than Standard Chains. These Chains are proof-tested as described below. Furnished at extra charge, they are interchangeable, size for size, on "Vulcan Superior," "Vulcan," "Improved Vulcan" and "Vulcan Boll-Weevil."

3. **"Superchains"** (Flat Link type only) are made from Alloy Steel, heat-treated and cadmium-plated. Each "Superchain" is proof-tested as described below. Furnished as original equipment on "Vulcan Supertongs," "Superchains" are interchangeable, size for size, and can be supplied at extra cost on all Williams' Tongs except the "Boll-Weevil Zephyr." Due to extra length, "Zephyr" Superchains are *not* interchangeable with any other pattern of tongs. They must be ordered specifically by number for exact "Zephyr" size desired.

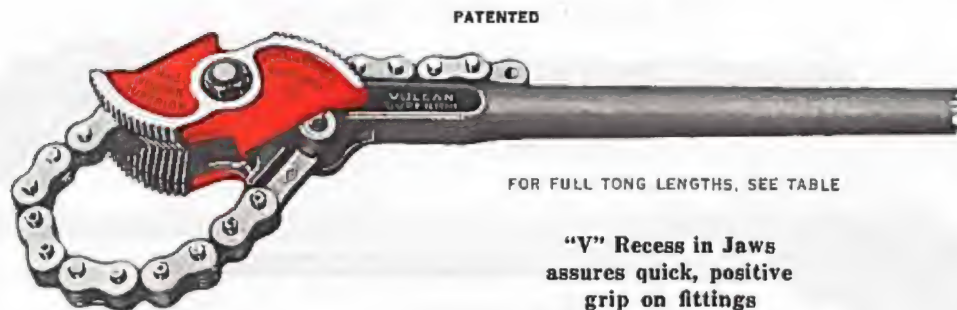
Proof-Testing. Each Chain, regardless of type, is individually "proof-tested" on a standard tension machine to *two-thirds of its breaking strain*. Every chain so tested is stamped **O** on the drop-forged swinging-link and to it is attached a leaden seal, bearing our trademark . Every Flat Link Chain leaving our works *must* bear this mark and seal—the Proof of Quality—as evidence that it has passed our standardized proof-tests.

† REGISTERED TRADE MARK

11-42

WILLIAMS' + "VULCAN SUPERIOR"
DROP-FORGED PIPE-AND-FITTINGS TONGS

For Both Pipe and Fittings, 1/8 to 12 in.



In no other tongs on the market can all these desirable "Vulcan Superior" features be obtained:—

1. **Universal Service**—Two tools in one. Always ready "as is" for either pipe or fittings. Two tools as commonly used (one for pipe, one for fittings) are unnecessary.
2. **"V" Recess in the jaws**, combined with their general design, gives "Vulcan Superior" a greater number of grips or "bites," both on pipe and fittings, than ordinary tongs. One-spot wear on the teeth is prevented and easier operation provided. Increased strength and greater ease in handling results.
3. **Reversible pipe-and-fittings jaws**. When the teeth first in use wear, simply unscrew the bolt and turn the jaws end-for-end.
4. **Chains***—Either Flat Link Chain, or Cable Chain, as desired.
5. **Proof-Testing**. Each Flat Link Chain is individually "proof-tested" on a standard tension machine to two-thirds of its breaking strain. Every chain so tested is stamped **O** on the drop-forged swinging-link and to it is attached a leaden seal, bearing our trade mark **W**. Every Flat Link Chain leaving our works must bear this mark and seal—the Proof of Quality—as evidence that it has passed our standardized proof-tests.

Wholly made from tough wrought steel; all parts are interchangeable.

| Number | 0 | 1 | 2 | 3 | 3 1/2 | 4 | 5 |
|---------------------------------|------------|--------------|--------------|----------|---------|------------|---------|
| For Pipe and Fittings, inches. | 1/8 to 3/4 | 1/8 to 1 1/2 | 1/4 to 2 1/2 | 3/4 to 4 | 1 to 6 | 1 1/2 to 8 | 2 to 12 |
| Extreme Length..... | 13 3/4 | 20 | 27 | 37 | 44 1/2 | 50 1/2 | 64 1/2 |
| Weight, lbs..... | 2 | 5 1/2 | 10 | 17 | 26 | 34 | 54 |
| Standard Flat Link Chain, .. | | | | | | | |
| Breaking Strain, lbs..... | 3,600 | 6,700 | 9,800 | 12,500 | 14,300 | 15,700 | 21,800 |
| Cable Chain, | | | | | | | |
| Breaking Strain, lbs..... | 1,800 | 6,000 | 9,000 | 12,500 | 14,300 | 15,700 | 21,800 |
| LIST PRICE, Complete..... | \$5.00 | \$7.00 | \$10.00 | \$14.00 | \$18.00 | \$22.00 | \$36.00 |
| *Extra Std. Flat or Cable Chain | 1.50 | 2.00 | 3.00 | 5.00 | 7.00 | 9.00 | 15.00 |
| †Extra Jaws, per pair..... | 2.00 | 3.50 | 5.50 | 8.00 | 9.50 | 11.00 | 15.00 |
| Extra Bolt and Nut, per set... | .28 | .36 | .46 | .60 | .70 | .90 | 1.30 |

† Extra Jaws supplied in pairs unless otherwise called for. If only a single jaw is wanted, specify Right or Left.

"Vulcan Superior" Tongs can be furnished with "Xtra-Strong" Flat Chain if specified, at small extra charge.

* See opposite page for data on Flat Link Chains.

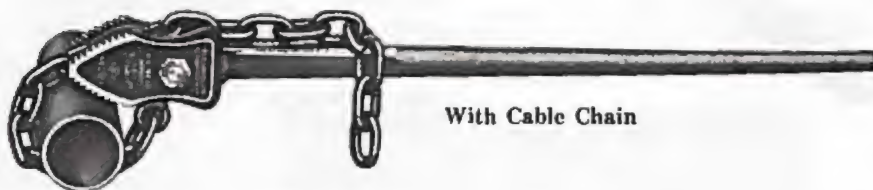
+ REGISTERED TRADE MARK

WILLIAMS' GENUINE + "VULCAN" DROP-FORGED CHAIN PIPE TONGS

For Turning, or Holding 1/8 to 18 in. Pipe





With Flat Link Chain



With Cable Chain

The Original "Vulcan," introduced by Williams forty years ago, is still the oil-fields' favorite tongs for general work. All "Vulcans" are made entirely from tough wrought steel and are fully guaranteed.

Chains* swing from the center and can be used on either side of the jaws, thus reducing to the minimum, wear upon specific teeth.

Proof-testing. To insure proper service, each Flat Link Chain is "proof-tested" in a standard tension machine to *two-thirds of its breaking strain* listed in table. Each Chain, so tested, is stamped  on the drop-forged swinging link and to it is attached a leaden seal bearing our trademark  thus absolutely establishing the safety-factor and reliability of every tong.

The jaws are fastened to the handle by extra size through bolt and U. S. Standard Nut.

| Number | 10 | 11 | 12 | 13 | 13 1/2 | 14 | 15 | 16 |
|--|--------|----------|----------|---------|----------|---------|---------|---------|
| Capacity | 1/8 | 1/8 | 1/4 | 3/4 | 1 | 1 1/2 | 2 | 4 |
| Size Pipe, inches..... | to 3/4 | to 1 1/2 | to 2 1/2 | to 4 | to 6 | to 8 | to 12 | to 18 |
| Extreme Length..... | 13 3/4 | 20 | 27 | 37 | 44 1/2 | 50 1/2 | 64 1/2 | 87 |
| Weight..... | 2 | 5 3/4 | 10 | 17 | 24 | 31 | 52 | 137 |
| Flat Standard Chain | | | | | | | | |
| Length..... | 9 1/2 | 13 1/2 | 17 1/2 | 22 1/2 | 32 | 40 1/2 | 55 1/2 | 74 1/2 |
| Breaking Strain, lbs..... | 3,600 | 6,700 | 9,800 | 12,500 | 14,300 | 15,700 | 21,800 | 40,000 |
| Cable Chain | | | | | | | | |
| Length..... | 9 3/4 | 14 1/2 | 18 | 27 | 33 1/2 | 42 | 57 | 76 |
| Breaking Strain, lbs..... | 1,800 | 6,000 | 9,000 | 12,500 | 14,300 | 15,700 | 21,800 | 40,000 |
| LIST PRICE, Complete with | | | | | | | | |
| Flat Standard or Cable Chain..... | \$5.00 | \$7.00 | \$10.00 | \$14.00 | \$18.00 | \$22.00 | \$36.00 | \$80.00 |
| *Extra Standard Flat or Cable Chain..... | 1.50 | 2.00 | 3.00 | 5.00 | 7.00 | 9.00 | 15.00 | 40.00 |
| Extra Jaws, pair..... | 2.00 | 3.50 | 5.50 | 8.00 | 9.50 | 11.00 | 15.00 | 32.00 |
| Extra Bolt and Nut, per set..... | .28 | .36 | .46 | .60 | .70 | .90 | 1.30 | 2.50 |
| Flat "Xtra-Strong" Chain, Number | X 10 | X 11 | X 12 | X 13 | X 13 1/2 | X 14 | X 15 | X 16 |
| Length..... | 9 1/2 | 13 1/2 | 17 1/2 | 22 1/2 | 32 | 40 1/2 | 55 1/2 | 74 1/2 |
| Breaking Strain, lbs..... | 5,070 | 9,400 | 13,800 | 17,600 | 20,100 | 22,000 | 31,000 | 56,000 |
| LIST PRICE, Complete with Flat | | | | | | | | |
| "Xtra-Strong" Chain..... | \$5.15 | \$7.20 | \$10.30 | \$14.50 | \$18.70 | \$22.90 | \$37.50 | \$84.00 |
| *"Xtra-Strong" Chain Only..... | 1.65 | 2.20 | 3.30 | 5.50 | 7.70 | 9.90 | 16.50 | 44.00 |

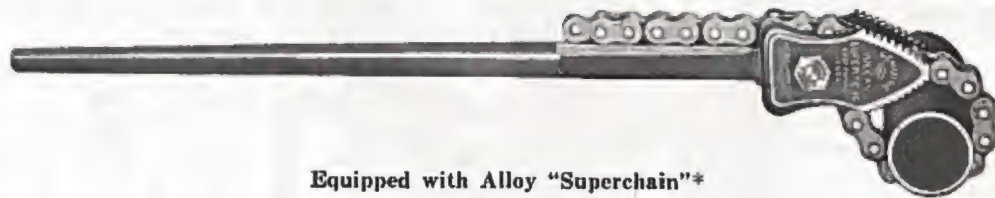
* See page 78 for data on Flat Link Chains

† REGISTERED TRADE MARK

11-42


WILLIAMS' + "VULCAN SUPERTONG"
DROP-FORGED ALLOY AND HIGH-TENSILE STEEL
HEAT-TREATED

For Turning, or Holding 1/8 to 18 in. Pipe



Equipped with Alloy "Superchain"*

The design and structural features of "Supertongs" are identical with those of "Vulcan Tongs" described on the opposite page. "Supertongs," however, are forged from Alloy and High-tensile steel, and are heat-treated. They provide at least 50% *greater strength* than regular "Vulcan" Tongs of corresponding size, with no increase in bulk or weight.

"Supertongs" are equipped with "Vulcan Superchains," a new Williams' chain of Alloy Steel—heat-treated and cadmium-plated—having greatly increased strength and durability; see page 78. Each "Superchain" is individually "*proof-tested*" in a standard tension machine to *two-thirds of its breaking strain* listed in table. Each chain, so tested, is stamped **O** on the drop-forged swinging link and to it is attached a leaden seal bearing our trade mark , thus absolutely establishing the safety-factor and reliability of every tong.

Finish:—Gray enamel; blue panel in Jaw, with bright faced edges. The "Superchains" are cadmium-plated.

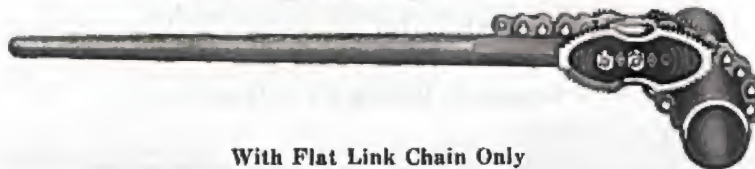
| Number | A10 | A11 | A12 | A13 | A13 1/2 | A14 | A15 | A16 |
|----------------------------------|--------|----------|----------|---------|---------|---------|---------|----------|
| Capacity | 1/8 | 1/8 | 1/4 | 3/4 | 1 | 1 1/2 | 2 | 4 |
| Size Pipe, inches..... | to 3/4 | to 1 1/2 | to 2 1/2 | to 4 | to 6 | to 8 | to 12 | to 18 |
| Extreme Length..... | 13 3/4 | 20 | 27 | 37 | 44 1/2 | 50 1/2 | 64 1/2 | 87 |
| Weight, lbs..... | 2 | 5 3/4 | 10 | 17 | 24 | 31 | 52 | 137 |
| Flat Link "Superchain" | | | | | | | | |
| Length..... | 9 1/2 | 13 1/2 | 17 1/2 | 22 1/2 | 32 | 40 1/2 | 55 1/2 | 74 1/2 |
| Breaking Strain, lbs..... | 5,800 | 10,800 | 15,600 | 20,000 | 22,800 | 25,000 | 35,000 | 64,000 |
| LIST PRICE | | | | | | | | |
| Complete | \$7.50 | \$10.50 | \$15.00 | \$21.00 | \$27.00 | \$33.00 | \$54.00 | \$120.00 |
| *Extra "Superchain" | 2.50 | 3.50 | 5.50 | 8.50 | 11.50 | 14.50 | 24.00 | 62.00 |
| Extra Jaws, pair..... | 3.50 | 5.50 | 8.00 | 11.00 | 13.50 | 16.50 | 24.00 | 50.00 |
| Extra Bolt and Nut, per set..... | .28 | .36 | .46 | .60 | .70 | .90 | 1.30 | 2.50 |

* See page 78 for data on Flat Link Chains.

✦ REGISTERED TRADE MARK

IMPROVED +“VULCAN” CHAIN PIPE TONGS WITH DOUBLE-ENDED REVERSIBLE JAWS

For Turning, or Holding 1/8 to 12 in. Pipe



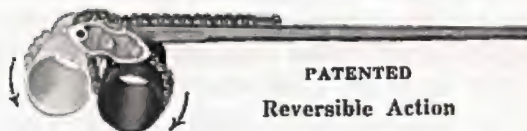
With Flat Link Chain Only

Improved “Vulcan” Tongs have double ended reversible jaws which may be quickly changed, end for end, providing double service life. These Tongs are wholly made of wrought steel. Jaws are fastened to the handle with two tough steel studs. Each *chain is proof-tested and certified assuring long, safe and dependable service.

| Number | 30 | 31 | 32 | 33 | 33 1/2 | 34 | 35 |
|--------------------------------|------------|--------------|--------------|----------|---------|------------|---------|
| Capacity—Size Pipe, Inches... | 1/8 to 3/4 | 1/8 to 1 1/2 | 1/4 to 2 1/2 | 3/4 to 4 | 1 to 6 | 1 1/2 to 8 | 2 to 12 |
| Extreme Length..... | 13 3/4 | 20 | 27 | 37 | 44 1/2 | 50 1/2 | 64 1/2 |
| Weight, lbs..... | 2 | 5 3/4 | 10 | 17 | 24 | 31 | 52 |
| Flat “Standard” Chain | | | | | | | |
| Length..... | 9 1/2 | 13 1/2 | 17 1/2 | 22 1/2 | 32 | 40 1/2 | 55 1/2 |
| Breaking Strain, lbs..... | 3,600 | 6,700 | 9,800 | 12,500 | 14,300 | 15,700 | 21,800 |
| LIST, Complete with Std. Chain | \$5.00 | \$7.00 | \$10.00 | \$14.00 | \$18.00 | \$22.00 | \$36.00 |
| *Extra Standard Chain | 1.50 | 2.00 | 3.00 | 5.00 | 7.00 | 9.00 | 15.00 |
| Extra Jaws, pair..... | 2.00 | 3.50 | 5.50 | 8.00 | 9.50 | 11.00 | 15.00 |
| Extra Nuts and Studs, per set. | .40 | .50 | .70 | .90 | 1.10 | 1.40 | 1.80 |

Improved “Vulcan” Tongs can be furnished with “Xtra-Strong” Flat Chain if specified, at small extra charge.

+“VULCAN BOLL-WEEVIL” For Oil Fields Service



PATENTED
Reversible Action

Designed for flat pipe work and pipe line work, the “Vulcan Boll-Weevil” eliminates holding up of heavy tongs against pipe from below. Simply lay tongs on top of pipe and hook chain around it. Positive grip and ready release. The Jaws are reversible for double service life. Equipped with “Standard” *Chain.

+“BOLL-WEEVIL ZEPHYR” Light Weight — Heat-Treated



PATENTED
Equipped with Alloy “Superchain”

Exactly the same design, structural and utility features as the regular “Vulcan Boll-Weevil” but stronger and lighter in weight, capacity for capacity. Forged from special high-tensile steel, heat-treated. Equipped with *”Superchains” cadmium-plated. Handle and panel in Jaws—gray enamel; Jaws—bright faced edges, blue backs.

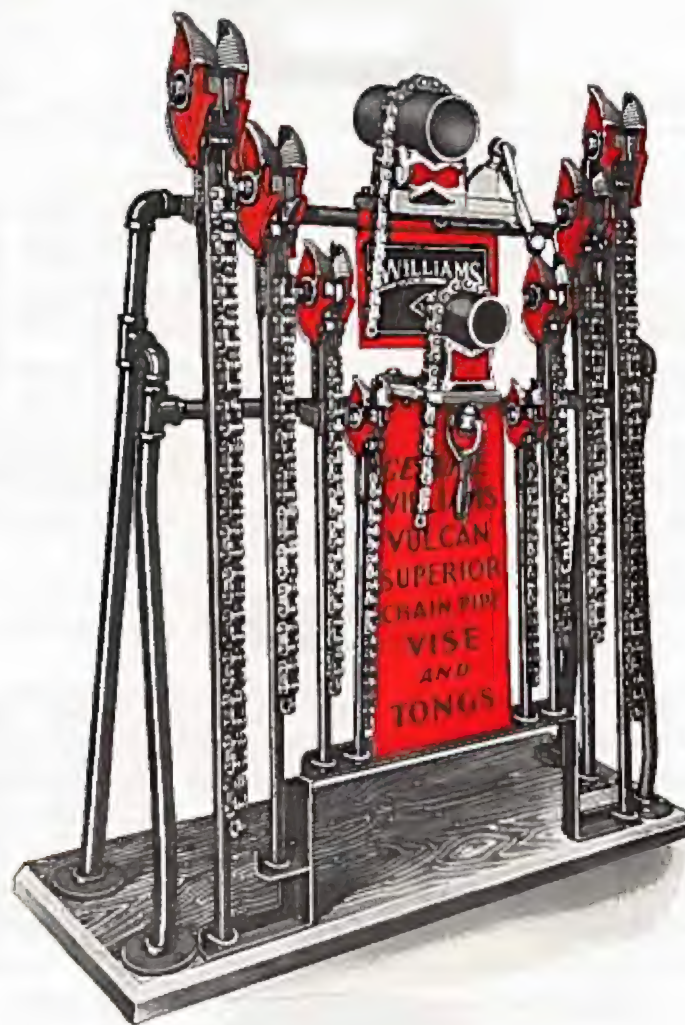
| Number | “BOLL-WEEVIL” | | | | “ZEPHYR” | | |
|--------------------------------------|---------------|---------|------------|---------|----------|---------|-------------|
| | 23 | 23 1/2 | 24 | 25 | 123 1/2 | 124 | 125 |
| Capacity—Size Pipe, inches..... | 3/4 to 4 | 1 to 6 | 1 1/2 to 8 | 2 to 12 | 3/4 to 6 | 1 to 8 | 1 1/2 to 12 |
| Extreme Length..... | 37 | 44 1/2 | 50 1/2 | 64 | 41 | 47 | 57 1/2 |
| Weight, lbs..... | 19 | 28 | 41 | 65 | 20 3/4 | 30 1/4 | 44 3/4 |
| Chain, Breaking Strain, lbs..... | 12,500 | 14,300 | 15,700 | 21,800 | 20,000 | 22,800 | 25,000 |
| LIST, Complete with Standard Chain | \$14.00 | \$18.00 | \$22.00 | \$36.00 | \$20.00 | \$26.00 | \$36.00 |
| *Extra Standard Chain | 5.00 | 7.00 | 9.00 | 15.00 | ..... | ..... | ..... |
| *Extra “Superchain” ..... | ..... | ..... | ..... | ..... | 10.50 | 14.00 | 19.00 |
| Extra Jaws, pair..... | 8.00 | 9.50 | 11.00 | 15.00 | 8.50 | 10.50 | 13.00 |
| Flat “Xtra-Strong” Chain, Number | X23 | X23 1/2 | X24 | X25 | ..... | ..... | ..... |
| Breaking Strain, lbs..... | 17,600 | 20,100 | 22,000 | 31,000 | ..... | ..... | ..... |
| LIST, *”Xtra-Strong” Chain, only ... | \$ 5.50 | \$ 7.70 | \$ 9.90 | \$16.50 | ..... | ..... | ..... |
| Tong with “Xtra-Strong” Chain.... | 14.50 | 18.70 | 22.90 | 37.50 | ..... | ..... | ..... |

♦ REGISTERED TRADE MARK

*See page 78 for data on Flat Link Chains

11-42

DISPLAY RACK
FOR
WILLIAMS' + "VULCAN" CHAIN PIPE TOOLS



An attractive method of display and an efficient aid to salesmen in demonstrating Williams' "Vulcan" Chain Pipe Tools. It makes the usual dark-corner storage space unnecessary and increases the interest of both buyer and seller in this stock.

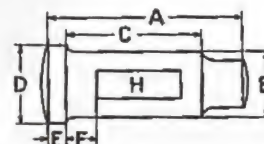
The rack is made of wrought iron pipe, painted black with metal panels enameled in orange, and occupies about 14 x 38" floor space—3 ft. high. It is loaned only to dealers for use with Williams' "Vulcan" Chain Pipe Tongs and Vises.

+ REGISTERED TRADE MARK

WILLIAMS' "VULCAN" TOOL POST FITTINGS

UNFINISHED

TOOL POSTS
Openings
Punched Out



| Number | 5 | 10 | 20 | 23 | 28 | 30 | 40 | 50 | 60 |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Length, A..... | 2 15/16 | 4 1/16 | 4 9/16 | 5 | 5 3/16 | 5 1/4 | 6 5/16 | 7 3/8 | 8 3/4 |
| Body | | | | | | | | | |
| Diameter, B... | 1 1/32 | 1 1/4 | 1 5/8 | 1 7/16 | 1 9/16 | 1 13/16 | 2 1/16 | 2 1/4 | 2 31/32 |
| Length, C..... | 2 | 2 7/8 | 3 1/4 | 3 1/2 | 3 11/16 | 3 3/4 | 4 3/8 | 5 | 6 |
| Base | | | | | | | | | |
| Diameter, D... | 1 7/32 | 1 5/8 | 2 1/8 | 1 7/8 | 2 1/16 | 2 5/16 | 2 5/8 | 2 15/16 | 3 5/8 |
| Thickness, E... | 5/16 | 1/4 | 7/16 | 5/16 | 5/16 | 1/2 | 9/16 | 5/8 | 3/4 |
| Base to | | | | | | | | | |
| Opening, F.... | 7/16 | 1/2 | 13/16 | 5/8 | 5/8 | 15/16 | 1 3/16 | 1 3/8 | 1 1/2 |
| Opening | 1 5/16 | 1 15/16 | 1 7/8 | 2 1/2 | 2 11/16 | 2 1/8 | 2 1/2 | 2 7/8 | 3 9/16 |
| Size, H..... | x 7/16 | x 19/32 | x 11/16 | x 21/32 | x 11/16 | x 3/4 | x 7/8 | x 15/16 | x 1 |
| For use with | | | | | | | | | |
| Wedge..... | 5 | 10 | 15 & 18 | 15 & 18 | 15 & 18 | 18 & 20 | 30 & 40 | 60 | |
| For use with | | | | | | | | | |
| Ring..... | 5 | 10 | 11 | 14 | 18 | 20 | 30 & 40 | 60 | |
| LIST PRICE ... | \$.82 | \$1.05 | \$1.40 | \$1.65 | \$1.90 | \$2.10 | \$3.05 | \$3.95 | \$7.95 |

TOOL POST
WEDGES



For Changing
Angles of
Lathe Tools

| *Number | 5 | 10 | 11 | 15 | 18 | 20 | 30 | 40 | 60 | 65 |
|------------------------|---------|-------|-------|-------|---------|-------|-------|-------|--------|--------|
| Length..... | 2 13/32 | 3 | 3 3/8 | 3 3/8 | 3 7/8 | 3 7/8 | 4 3/8 | 4 7/8 | 5 1/4 | 5 5/16 |
| Width—Top..... | 13/32 | 9/16 | 1/2 | 5/8 | 5/8 | 11/16 | 3/4 | 13/16 | 15/16 | 7/8 |
| Width—Extreme..... | 1/2 | 21/32 | 19/32 | 23/32 | 3/4 | 13/16 | 7/8 | 15/16 | 1 3/32 | 1 1/32 |
| Extreme Thickness..... | 11/32 | 31/64 | 25/64 | 7/16 | 15/32 | 17/32 | 1/2 | 21/32 | 3/4 | 29/32 |
| Radius..... | 3 | 2 7/8 | 4 5/8 | 4 5/8 | 4 1/2 | 4 3/4 | 5 1/2 | 5 3/4 | 6 | 5 |
| For Use with Post..... | 5 | 10 | 20 | 20 | 20 & 30 | 30 | 40 | 40 | 50 | |
| For Use with Ring..... | 5 | 10 | 11 | 11 | 11 & 20 | 20 | 30 | 40 | 60 | |
| LIST PRICE..... | \$.27 | \$.30 | \$.30 | \$.33 | \$.34 | \$.35 | \$.40 | \$.47 | \$.56 | \$.61 |

TOOL POST
RINGS



For Changing
Angles of
Lathe Tools

| Number | 5 | 10 | 11 | 14 | 18 | 20 | 30 | 40 | 60 |
|-----------------------|--------|---------|---------|---------|--------|---------|--------|--------|--------|
| Diameter, Outside.... | 2 1/4 | 2 15/16 | 3 | 3 3/16 | 3 7/16 | 3 1/2 | 3 1/2 | 4 | 4 1/2 |
| Diameter, Hole..... | 1 1/16 | 1 5/16 | 1 5/8 | 1 7/16 | 1 9/16 | 1 3/4 | 2 | 2 | 2 3/16 |
| Thickness, Edge..... | 3/8 | 7/16 | 7/16 | 5/8 | 11/16 | 9/16 | 3/4 | 3/4 | 3/4 |
| Radius of Concave... | 3 | 2 7/8 | 4 5/8 | 4 5/8 | 4 1/2 | 4 3/4 | 5 1/2 | 5 3/4 | 6 |
| For Use with Post.... | 5 | 10 | 20 | 23 | 28 | 30 | 40 | 40 | 50 |
| For Use with Wedge.. | 5 | 10 | 11 & 15 | 18 & 20 | 18 | 18 & 20 | 30 | 40 | 60 |
| LIST PRICE | \$.33 | \$.47 | \$.52 | \$.75 | \$.94 | \$.82 | \$1.00 | \$1.15 | \$1.50 |

Weights, page F.

★ REGISTERED TRADE MARK

11-42

WILLIAMS'
DROP-FORGED TOOL-HOLDERS

"THE HOLDERS THAT HOLD"

The Williams' Tool Holder System provides tool holders for convenient, efficient and economical operation in all lathe work.

Holders, or shanks, all drop-forged from a strong, tough grade of carefully selected steel, are specially heat-treated and hardened. These processes develop maximum resistance to all wear and also the sturdy strength necessary to overcome the pushing thrust imposed upon the Cutters. The nose of the Holders is chamfered to permit convenient use in cramped quarters, where space is limited.

Cutter-holding channel is unusually accurate and long. It provides an absolutely true and rigid seat for the Cutter and assures a chatter-proof tool. No breaking of costly high speed steel bits.

Williams' Cutting-Off & Side-Tools provide unequalled convenience and economy—one Holder takes both styles of blade.

Each Williams' Boring-Tool holds securely many sizes of Bars, without requiring sleeves, or bushings. This is often a great convenience, since any size bar, within the capacity of the holder, can be inserted instantly without waiting to locate loose parts that have been lost, or mislaid.

Williams' Planing-Tools, because of their unique design, provide 24 different angles of cutter adjustment instead of the usual 5—a real advantage when working in close quarters. Reversal of the Holder in the tool post, so as to bring the cutting point behind the center of the shank, makes a most efficient "goose neck" tool.

Williams' Cutters are all made from High Speed Steel. Since those for Turning and Planing Tools are cut to the "diamond-point" form or bevel, they care for the most common requirements with a minimum of grinding. All Cutting-Off, Side and Threading Cutters are finished, ready for use.

Hardening Cutters. Only the most modern and efficient equipment is used in hardening Williams' Cutters. Variations in hardness, beyond our standardized close limits, are entirely eliminated and consistent high quality, with durable cutting edges, maintained.

WILLIAMS' CARBIDE TURNING-TOOL HOLDERS

With Straight and Offset Shanks

"THE HOLDERS THAT HOLD"



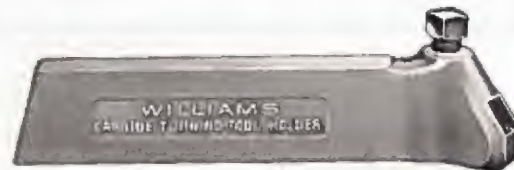
Straight
Shank



Right Hand
Offset
Shank

Furnished with Wrench,
but without Cutter

Left Hand
Offset
Shank



In these Tools, the Cutter is held parallel to the shank. Consequently, Cutters can be so ground as to provide maximum support for the cutting edge. This feature, plus the extremely rigid Holder, is the recognized basis for the best performance of cemented Carbide Cutters.

Holders are broached for either square or flat standard Carbide Cutters, but are supplied WITHOUT CUTTERS. These may be obtained, on short notice, directly from the manufacturers of cemented carbide "tips." Inquiries sent us for Cutters with order for Holders, or separately, will be forwarded to leading manufacturers of cemented carbides, thereby assuring customers of direct, expert assistance from carbide cutter specialists.

Carbide Cutters, as supplied by their manufacturers, are available in many grades and standardized shapes of tips. Always specify material to be cut, nature of operation, form of cutter desired, its size and whether square, or flat. Flat cutters are recommended for general work.

| Number | | | Holder, Size | For Cutter | | LIST PRICE Holder Without Cutter | Number | | |
|--------------------|---------------|--------------|------------------|--------------|---------------|--|-------------------|---------------|--------------|
| Straight Shank | Offset Shank | | | Sq., Size | Flat, Size | | Straight Shank | Offset Shank | |
| | Right Hand | Left Hand | | | | | | Right Hand | Left Hand |
| | | | | | | | | | |
| FOR SQUARE CUTTERS | | | | | | | | | |
| T-0-S | T-0-R | T-0-L | 3/8 x 15/16 x 6 | 1/4 | ..... | \$ 3.20 | T-0-S | T-0-R | T-0-L |
| T-1-S | T-1-R | T-1-L | 1/2 x 1 1/4 x 7 | 5/16 | ..... | 3.60 | T-1-S | T-1-R | T-1-L |
| T-2-S | T-2-R | T-2-L | 5/8 x 1 1/2 x 8 | 3/8 | ..... | 4.50 | T-2-S | T-2-R | T-2-L |
| T-3-S | T-3-R | T-3-L | 3/4 x 1 3/4 x 9 | 7/16 | ..... | 6.00 | T-3-S | T-3-R | T-3-L |
| T-4-S | T-4-R | T-4-L | 7/8 x 1 7/8 x 10 | 1/2 | ..... | 7.60 | T-4-S | T-4-R | T-4-L |
| T-5-S | T-5-R | T-5-L | 1 x 2 1/8 x 12 | 5/8 | ..... | 10.80 | T-5-S | T-5-R | T-5-L |
| * FOR FLAT CUTTERS | | | | | | | | | |
| FT-1-S | FT-1-R | FT-1-L | 1/2 x 1 1/4 x 7 | ..... | 5/16 x 7/16 | \$ 4.40 | FT-1-S | FT-1-R | FT-1-L |
| FT-2-S | FT-2-R | FT-2-L | 5/8 x 1 1/2 x 8 | ..... | 3/8 x 1/2 | 5.40 | FT-2-S | FT-2-R | FT-2-L |
| FT-3-S | FT-3-R | FT-3-L | 3/4 x 1 3/4 x 9 | ..... | 7/16 x 9/16 | 7.20 | FT-3-S | FT-3-R | FT-3-L |
| FT-4-S | FT-4-R | FT-4-L | 7/8 x 1 7/8 x 10 | ..... | 1/2 x 3/4 | 9.20 | FT-4-S | FT-4-R | FT-4-L |
| FT-5-S | FT-5-R | FT-5-L | 1 x 2 1/8 x 12 | ..... | 5/8 x 7/8 | 12.90 | FT-5-S | FT-5-R | FT-5-L |

Weights, page L.

* Holders for Flat Cutters to be Discontinued when stock is exhausted

WILLIAMS' TURNING-TOOL HOLDERS

With Straight and Offset Shanks

"THE HOLDERS THAT HOLD"



**Straight
Shank**



**Right Hand
Offset
Shank**

Furnished With Cutter
and Wrench

**Left Hand
Offset
Shank**



For general description see page 85.

Holders have nose chamfered and are specially heat-treated and hardened.

The cutter-holding channel is unusually accurate and long. It provides an absolutely true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed steel bits.

The Set Screws, made of a fine grade of Alloy Steel, are accurately machined and carefully heat-treated and hardened. They are unusually tough and strong and provide the maximum efficiency in cutter fastening.

The "diamond-point" form in which the High Speed Cutters are furnished requires the minimum of grinding.

| Number | | | Holder, Size | Cutter Size, Square | LIST PRICE | |
|-------------------|---------------|--------------|--------------------|------------------------|--------------------------------------|--|
| Straight Shank | Offset Shank | | | | Cutters Only, High Speed Steel | Complete Tool, with High Speed Cutter |
| | Right Hand | Left Hand | | | | |
| 000-S | 000-R | 000-L | 5/16 x 1/2 x 4 | 3/16 | \$.15 | \$ 2.70 |
| 00-S | 00-R | 00-L | 5/16 x 3/4 x 4 1/2 | 3/16 | .15 | 2.70 |
| 0-S | 0-R | 0-L | 3/8 x 7/8 x 5 | 1/4 | .20 | 2.85 |
| 1-S | 1-R | 1-L | 1/2 x 1 1/8 x 6 | 5/16 | .35 | 3.25 |
| 2-S | 2-R | 2-L | 5/8 x 1 3/8 x 7 | 3/8 | .55 | 4.00 |
| 3-S | 3-R | 3-L | 3/4 x 1 5/8 x 8 | 7/16 | .90 | 5.40 |
| 4-S | 4-R | 4-L | 7/8 x 1 3/4 x 9 | 1/2 | 1.30 | 6.90 |
| 5-S | 5-R | 5-L | 1 x 2 x 11 | 5/8 | 2.35 | 9.75 |
| 6-S | 6-R | 6-L | 1 1/4 x 2 1/4 x 13 | 3/4 | 3.85 | 13.50 |

Weights, page L.

WILLIAMS' DROP-HEAD TURNING-TOOL HOLDERS

With Straight and Offset Shanks

"THE HOLDERS THAT HOLD"



Straight
Shank



Right Hand
Offset
Shank

Furnished with either
type of Cam, Cutter
and Wrench

Left Hand
Offset
Shank



For general description, see page 85.

Designed for use on lathes with clamp-tool rests and low centers, and excellently adapted to shaper and planer work.

The cutter-holding channel is unusually accurate. It provides an absolutely true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed steel bits.

The Cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post, and imposes no obstruction to cutting facilities. Either Hex Head or Headless Cam is furnished; both types are interchangeable.

The "diamond-point" form in which the High Speed Cutters are furnished requires the minimum of grinding.

Hex Head Cam will be furnished, unless otherwise specified.

| Number | | | Holder, Size | | Cutter Size, Square | Height from Bottom of Shank to Cutter Point | LIST PRICE | | |
|-------------------|---------------|--------------|--------------|---------------|---------------------------|--|---|--|--|
| Straight Shank | Offset Shank | | | | | | Extra Inter- change- able Cams, Each | Cutters Only, High Speed Steel | Complete Tool, with High Speed Cutter |
| | Right Hand | Left Hand | | | | | | | |
| 0200-S | 0200-R | 0200-L | 7/16 x | 9/16 x 6 | 3/16 | 9/16 | \$.90 | \$.15 | \$2.70 |
| 200-S | 200-R | 200-L | 9/16 x | 11/16 x 6 7/8 | 1/4 | 11/16 | .99 | .20 | 2.85 |
| 201-S | 201-R | 201-L | 3/4 x | 7/8 x 7 7/8 | 5/16 | 13/16 | 1.10 | .35 | 3.25 |
| 202-S | 202-R | 202-L | 7/8 x 1 | x 8 7/8 | 3/8 | 15/16 | 1.22 | .55 | 4.00 |
| 204-S | 204-R | 204-L | 1 1/8 x 1 | 1/4 x 11 | 1/2 | 1 3/16 | 1.50 | 1.30 | 6.90 |

Weights, page L.

11-42

WILLIAMS' THREADING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"



**LOCKABLE-SPRING HEAD
PATTERN**
Furnished with
Finished Cutter and Wrench

**FORMED-CUTTER
PATTERN**
Furnished with
Finished Cutter and Wrench



For General Description, see page 85

LOCKABLE-SPRING PATTERN

A highly perfected tool for fine and coarse threading, or other Lathe work. The Nut for the Lockable-Spring Head provides for the rigid backing required for heavy cuts; when it is loosened, the Holder becomes a spring-tool for finishing work. It is equally efficient as a Turning-tool. The Cam-fastening is always rapid and positive—the greater the pressure, the tighter the lock.

The cutter, made from High Speed steel, is finished. Each end is ground, the "V" point forming either an angle of 60° for U. S., or 55° for Whitworth Std. threads.

FORMED-CUTTER PATTERN

Williams' Threading-Tools with FORMED CUTTER assure threads that fit perfectly, since in re-sharpening the Cutter, it is necessary to grind its top edge only. Therefore, the point will always retain proper form and angle as originally supplied.

The High Speed Cutter is ground to an included angle of 60° and is backed off for proper clearance. Its rear, flat edge is eccentrically formed; the hardened stop screw, bearing against it, provides positive and accurate adjustment.

| No. | Holder, Size | Cutter, Size Square | LIST PRICE | | No. |
|-------------------------|---------------------|------------------------|---|---------------------------------------|-------|
| | | | Extra Finished Cutter, High Speed | Complete with High Speed Cutter | |
| LOCKABLE-SPRING PATTERN | | | | | |
| S-50 | 3/8 x 7/8 x 5 1/4 | 1/4 | \$.45 | \$4.15 | S-50 |
| S-51 | 1/2 x 1 1/8 x 6 | 5/16 | .55 | 5.00 | S-51 |
| S-52 | 5/8 x 1 3/8 x 7 | 3/8 | .70 | 6.40 | S-52 |
| FORMED-CUTTER PATTERN | | | | | |
| C-050 | 5/16 x 3/4 x 5 | Formed | \$2.65 | \$4.15 | C-050 |
| C-50 | 3/8 x 7/8 x 5 | Formed | 2.65 | 4.15 | C-50 |
| C-51 | 1/2 x 1 1/8 x 5 3/4 | Formed | 3.15 | 5.00 | C-51 |
| C-52 | 5/8 x 1 3/8 x 7 | Formed | 4.15 | 6.40 | C-52 |

Weights, page L.

WILLIAMS' LIGHT BORING-TOOL HOLDERS FOR SMALL, LIGHT BORING, TURNING, ETC.

For Many Sizes of Bars



Furnished with 2 Finished Bars, 1 Square Cutter and Wrench

This Holder is very handy and economical for tool room use and for all small work—not only in boring small diameters, threading, etc., but also in turning.

Boring. Each tool will hold a number of sizes of Bars; two, varying 1/8" in diameter, are supplied with each Holder. The solid Bars are High Speed Steel, carefully hardened and ground, ready for use.

Turning. The Holder, will offset shank, is reversible for right and left hand work. A hardened, High Speed Steel square Cutter with ends beveled to a "diamond point" for easy grinding to desired form, is supplied with each tool.

| No. | Holder, Size Shank | With Each Holder | | LIST PRICE | | No. |
|-----|---------------------|-----------------------------------|----------------------------|--------------------|----------------------------------|-----|
| | | 2 Bars High Speed Steel, Diameter | 1 High Speed Square Cutter | Square Cutter Only | Complete Holder, Bars and Cutter | |
| 15 | 3/8 x 3/4 x 5 | 1/8 & 1/4 | 1/4 | \$.20 | \$4.15 | 15 |
| 16 | 1/2 x 1 x 5 3/4 | 3/16 & 5/16 | 5/16 | .35 | 5.25 | 16 |
| 17 | 5/8 x 1 1/4 x 6 3/4 | 1/4 & 3/8 | 3/8 | .65 | 6.75 | 17 |

EXTRA BORING BARS

| Size..... | 1/8 x 4 | 3/10 x 4 1/2 | 1/4 x 5 | 5/16 x 6 | 3/8 x 7 | 7/16 x 8 |
|-----------------------|---------|--------------|----------|----------|---------|----------|
| For Holders..... | 15 & 16 | 15 to 17 | 15 to 17 | 15 to 17 | 16 & 17 | 17 |
| LIST PRICE, Each..... | \$.30 | \$.40 | \$.50 | \$.60 | \$.80 | \$1.10 |

ADJUSTABLE BORING-TOOL POSTS

FOR MANY SIZES OF BARS

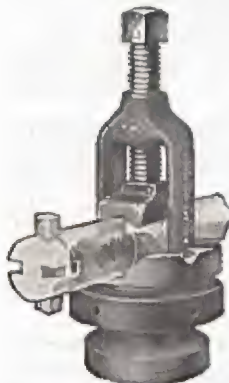
Furnished with either Sleeve or Plain Bar, 1 each 45° and 90° Cutter and 2 Wrenches

Each Post accommodates a wide range of Bars; commercial sizes of bar steel are adaptable for either Bars or Cutters without machining.

The height of the Bar is easily and quickly adjusted—a turn of the Knurled Ring will raise or lower the base on which the Bar rests; tightening the Set Screw in the head of the Post then locks the whole device instantly, giving an extremely rigid tool.

If Post is desired *without* the Bar, deduct price shown on page 91 for standard size Bar.

Standard size Sleeve Bar will be furnished, unless otherwise specified.



| Number | 2 | 3 | 4 | 5 |
|--|---------------|--------------|----------------|--------------|
| Post—Length over all, without Screw..... | 6 5/8 | 7 5/8 | 9 1/8 | 11 1/8 |
| † "T" Slot Flange: | | | | |
| A Diameter..... | 3 | 3 1/2 | 4 1/4 | 5 |
| B Thickness..... | 5/8 | 3/4 | 7/8 | 1 1/16 |
| † "T" Slot Neck: | | | | |
| C Diameter..... | 1 5/8 | 1 3/4 | 2 | 2 1/4 |
| D Length..... | 3/4 | 13/16 | 1 | 1 1/4 |
| E Center Height..... | 1 13/16 | 1 7/8 | 2 3/8 | 2 3/4 |
| Post Capacity for Bar—Size..... | 1/2 to 1 5/16 | 1/2 to 1 1/2 | 5/8 to 1 13/16 | 3/4 to 2 1/4 |
| Standard Bar—Size..... | 1 5/16 | 1 1/2 | 1 13/16 | 2 1/4 |
| LIST PRICE—Complete Post: | | | | |
| With Sleeve Bar, High Speed Cutters..... | \$27.00 | \$37.50 | \$60.00 | \$90.00 |
| With Plain Bar, High Speed Cutters..... | 25.50 | 35.75 | 58.00 | 80.50 |

† The "T" Slot Flange and Neck are furnished large to allow for fitting to individual machines. For special finishing to specified dimensions, an extra charge of \$2.00 net, each Post will be made.

Weights, page L.

Bar and Cutter details on page 91.

11-42

WILLIAMS' BORING-TOOL HOLDERS

EACH TAKES MANY SIZES OF BARS



Sleeve Bar



Plain Bar

Furnished with either Sleeve or Plain Bar, 1 each 45° and 90° Cutter and 2 Wrenches

With this Holder, encumbering sleeves or bushings are unnecessary for Bars of various sizes; One Holder takes many Bars. Commercial forms of bar steel are adaptable for either Bars or Cutters without machining.

The Sleeve-bar fastening provides for the rapid adjustment of either straight or angular Cutters without the use of extra parts; it has greater strength than others of the same general design.

The Plain Bar provides for use with either Straight or Angular Cutters in the simplest manner possible and is furnished with Headless Set Screws.

Standard size Sleeve Bar will be furnished, unless otherwise specified.

| No. | Holder, Size | Holder Capacity for Bars, Size Diameter | Standard Bar, Size Diameter | LIST PRICE Complete Holder | | No. |
|-----|--------------|---|-----------------------------|------------------------------------|-------------------------------------|-----|
| | | | | With Plain Bar, High Speed Cutters | With Sleeve Bar, High Speed Cutters | |
| 080 | 5/10 x 3/4 | 3/16 to 1/2 | 1/2 | \$4.30 | \$ 4.90 | 080 |
| 80 | 3/8 x 7/8 | 1/4 to 5/8 | 5/8 | 4.30 | 4.90 | 80 |
| 81 | 1/2 x 1 1/8 | 1/4 to 3/4 | 3/4 | 5.00 | 5.80 | 81 |
| 82 | 5/8 x 1 3/8 | 3/8 to 15/16 | 15/16 | 6.50 | 7.65 | 82 |
| 83 | 3/4 x 1 5/8 | 1/2 to 1 1/8 | 1 1/8 | 9.60 | 10.85 | 83 |

BORING-BARS AND CUTTERS

FOR BORING-TOOL HOLDERS AND ADJUSTABLE BORING-TOOL POSTS



Sleeve Bar



Plain Bar

Furnished with Two Cutters and Wrench

| Boring-Bars Approximate Size | | For Use With | | Cutters | | LIST PRICE | | |
|------------------------------|----------------|--------------|-----------|------------------------------|----------------------|--------------------------|--------------------------------|---------------------------------|
| Sleeve | Plain | Holders No. | Posts No. | Size Square and Length | For Use at Angles of | Cutters Only, High Speed | Complete Bar | |
| | | | | | | | Plain, with High Speed Cutters | Sleeve, with High Speed Cutters |
| 1/2 x 7 5/8 | 1/2 x 8 1/8 | 080-83 | 2-3 | 3/16 x 1 3/16 x 1 1/2 | 90° 45° | \$.10 .12 | \$ 2.40 | \$ 3.00 |
| 5/8 x 9 1/8 | 5/8 x 10 1/8 | 80-83 | 2-4 | 3/16 x 1 3/16 x 1 1/2 | 90° 45° | .10 .12 | 2.40 | 3.00 |
| 3/4 x 11 | 3/4 x 12 1/8 | 81-83 | 2-5 | 1/4 x 1 1/4 1/4 x 2 | 90° 45° | .15 .19 | 2.95 | 3.75 |
| 15/16 x 13 1/4 | 15/16 x 14 1/8 | 82-83 | 2-5 | 5/16 x 1 1/2 5/16 x 2 1/2 | 90° 45° | .24 .32 | 4.25 | 5.40 |
| 1 1/8 x 16 | 1 1/8 x 16 3/4 | 83 | 2-5 | 3/8 x 1 7/8 3/8 x 2 | 90° 45° | .35 .60 | 6.25 | 7.50 |
| 1 5/16 x 19 | 1 5/16 x 20 | | 2-5 | 3/8 x 2 1/8 3/8 x 3 1/4 | 90° 45° | .40 .55 | 9.00 | 10.50 |
| 1 1/2 x 23 1/4 | 1 1/2 x 23 1/2 | | 3-5 | 7/16 x 2 1/4 7/16 x 3 3/8 | 90° 45° | .60 .85 | 11.75 | 13.50 |
| 1 13/16 x 27 1/4 | 1 13/16 x 28 | | 4-5 | 1/2 x 2 5/8 1/2 x 4 | 90° 45° | .90 1.30 | 17.50 | 19.50 |
| 2 1/4 x 33 | 2 1/4 x 34 | | 5 | 5/8 x 3 1/8 5/8 x 4 3/4 | 90° 45° | 1.70 2.35 | 31.00 | 34.50 |

Weights, page L.

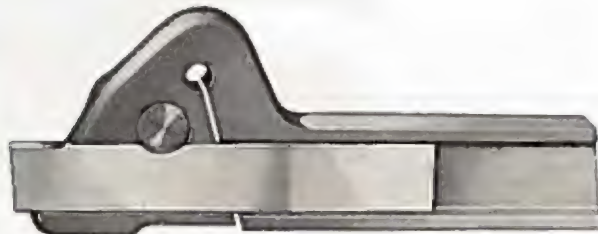
Light Boring Bars and Posts on previous page.

WILLIAMS' SPRING CUTTING-OFF TOOL HOLDERS

With Straight and Right Hand Offset Shanks

"THE HOLDERS THAT HOLD"

Straight
Shank



Right Hand
Offset Shank

Furnished with Finished Cutter and Wrench

For General Description, see page 85.

These Spring Tools make comparatively simple all lathe cutting-off work—long thought the hardest of lathe operations. Due to the "goose neck" form of the Holder, the Cutter Blade is relieved of excess pressure; no chattering, no "climbing" of the work on the tool—the real cause of nearly all breakage of cutting-off tools. These Holders are also particularly efficient with automatic feed.

The Cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post.

Cutter Blades are High Speed Steel, hardened and ground ready for use. They are interchangeable in Holders of corresponding size on page 93-A, as explained in following paragraphs.

NOTE: For the convenience of users, the width of Cutter Blades and slot in the Holders for same is being altered. The new Cut-off Blades are interchangeable in other standard Holders.

This change is now effective on Holders with piece number carrying the prefix "N" (New). All other sizes will be altered similarly as the present stock of Holders is exhausted, but Extra Blades of former size to fit old Holders now in use will be continued.

Always be sure to specify the Holder number when ordering Extra Blades. For instance, No. S-21-R for Blade to fit old Holder; No. NS-21-R for Blade to fit new Holder.

Straight Shank Holders will be furnished, unless otherwise specified.

| Number | | Holder, Size | Cutter Blades, High Speed Steel, Finished Size | | LIST PRICE | | Number | |
|----------------|--------------------------|--------------|--|---|---|--|----------------|--------------------------|
| Straight Shank | Offset Shank, Right Hand | | OLD for Original Williams' Holders Only | * NEW Interchangeable in Other Standard Holders | Extra Blade, Finished, High Speed Steel | Complete Holder with Blade, High Speed Steel | Straight Shank | Offset Shank, Right Hand |
| NS-20 | NS-30-RA | 3/8 x 13/16 | 3/32 x 5/8 | 3/32 x .595 | \$.05 | \$4.50 | NS-20 | NS-30-RA |
| NS-21 | NS-30-R | 3/8 x 31/32 | 1/8 x 3/4 | 3/32 x .595 | .05 | 4.50 | NS-21 | NS-30-R |
| NS-22 | NS-31-R | 1/2 x 1 3/16 | 1/8 x 7/8 | 1/8 x .735 | .90 | 5.40 | NS-22 | NS-31-R |
| NS-23 | NS-32-R | 5/8 x 1 3/8 | 3/16 x 1 | 1/8 x .870 | 1.30 | 6.75 | NS-23 | NS-32-R |
| | NS-33-R | 3/4 x 1 5/8 | | 3/16 x .940 | 2.15 | 9.00 | | NS-33-R |

*New Cutter Blades will not fit old Holders, nor old Blades, new Holders.

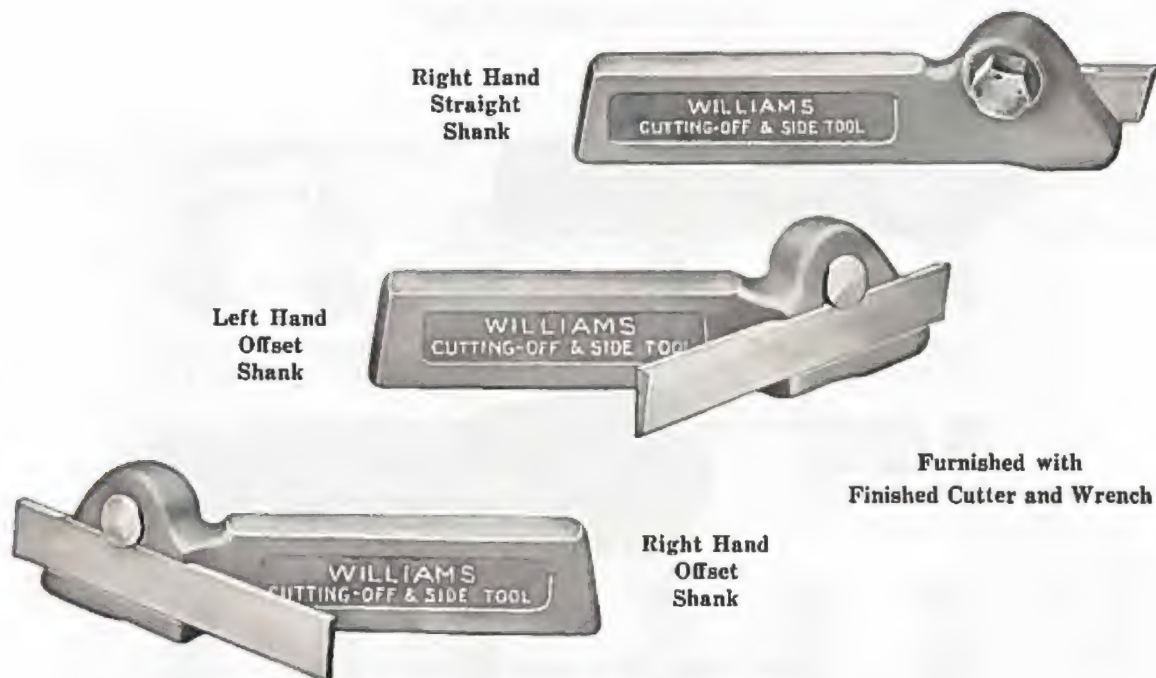
Weights, page L.

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WILLIAMS' CUTTING-OFF AND SIDE-TOOL HOLDERS

For Interchangeable Blades. Straight and Offset Shanks.

"THE HOLDERS THAT HOLD"



For General Description, see page 85.

One Holder takes both Cutting-off and Side Blades, providing unique convenience and economy. The Cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post.

The Cutter Blades are High Speed Steel, hardened and ground ready for use. They are interchangeable in Holders of corresponding size on page 92-A, as explained in following paragraphs.

NOTE: For the convenience of users, the width of Cutter Blades and slot in the Holders for same is being altered. The new Cut-off Blades (not Side) are interchangeable in other standard Holders.

This change is now effective on Holders with piece number carrying the prefix "N" (New). All other sizes will be altered similarly as the present stock of Holders is exhausted, but Extra Blades of former size to fit old Holders now in use will be continued.

Always be sure to specify the Holder number when ordering Extra Blades. For instance, No. 20-R for Blade to fit old Holder; No. N-20-R for Blade to fit new Holder.

Cutting-off Blade will be furnished, unless otherwise specified.

| Number | | | Holder, Size | Cutter Blades, High Speed Steel, Finished Size | | | | LIST PRICE | | | |
|------------------------------|--------------|-----------|---------------|--|--|---|---|---|--------|--|--------|
| Straight Shank Right Hand | Offset Shank | | | Cutting-Off Blade | | Side Blade | | Extra Blade, Finished, High Speed Steel | | Complete Holder With Blade, High Speed Steel | |
| | Right Hand | Left Hand | | OLD for Original Williams' Holders Only | * NEW Inter-changeable in Other Standard Holders | OLD for Original Williams' Holders Only | *NEW for New-Style Williams' Holders "N" Series | Cut-Off | Side | Cut-Off | Side |
| | | | | | | | | | | | |
| N-020-R | N-030-R | N-030-L | 5/16 x 13/16 | 5/64 x 1/2 | 5/64 x .475 | 1/8 x 1/2 | 1/8 x .475 | \$.60 | \$.00 | \$2.85 | \$2.85 |
| N-20-R | N-30-R | N-30-L | 3/8 x 31/32 | 3/32 x 5/8 | 3/32 x .595 | 5/32 x 5/8 | 5/32 x .595 | .65 | .90 | 3.00 | 3.40 |
| N-21-R | N-31-R | N-31-L | 1/2 x 1- 3/16 | 1/8 x 3/4 | 1/8 x .735 | 3/16 x 3/4 | 3/16 x .735 | .90 | 1.40 | 3.60 | 4.35 |
| N-22-R | N-32-R | N-32-L | 5/8 x 1- 3/8 | 1/8 x 7/8 | 1/8 x .870 | 1/4 x 7/8 | 1/4 x .870 | 1.30 | 2.30 | 4.50 | 6.00 |
| N-23-R | N-33-R | 33-L | 3/4 x 1- 5/8 | 3/16 x 1 | 3/16 x .940 | 5/16 x 1 | 5/16 x .940 | 2.15 | 3.40 | 6.00 | 7.85 |
| N-24-R | N-34-R | 34-L | 7/8 x 1- 3/4 | 3/16 x 1-1/8 | 3/16 x 1.100 | 3/8 x 1-1/8 | 3/8 x 1.100 | 2.90 | 5.00 | 7.50 | 10.65 |
| N-25-R | N-35-R | 35-L | 7/8 x 1- 3/4 | 1/4 x 1-1/8 | 1/4 x 1.100 | ..... | ..... | 4.00 | ..... | 8.60 | ..... |

*New Cutter Blades will not fit old Holders, nor old Blades, new Holders. Weights, page L.

WILLIAMS' KNURLING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"



Nos. 00-K to 2-K
with Self-center-
ing Head and One
Pair of Knurls

Nos. 11-K, 12-K
with Revolving
Head and Three
Pairs of Knurls



For General Description, see page 85

Williams' Knurling Tools are furnished in two designs:—

Nos. 00-K to 2-K, with sturdy, self-centering heads, are each fitted with ONE pair of Knurls for fine, medium, or coarse work—see illustration on opposite page. Unless otherwise specified, "Diamond" Pattern, Medium Knurls will be supplied.

Nos. 11-K and 12-K carry THREE pairs of Knurls for fine, medium and coarse work—see illustration on following page. These are fitted in a revolving head and can be used as desired, without loss of time in changing from one grade of knurling to another.

The Pins are of Tool Steel, carefully tempered.

The Knurls are fully described on next page.

| No. | Holder, Size | Knurls, Size | | | Weight Each, Lbs. | LIST PRICE | | No. | |
|--|---------------------|--------------|------|-------|-------------------------|--------------------------|-----------------------|------|--|
| | | Diam. | Face | Hole | | Extra Knurls, Pair | Com- plete Tool | | |
| SELF-CENTERING HEAD—ONE PAIR OF KNURLS | | | | | | | | | |
| 00-K | 5/16 x 3/4 x 5 | 5/8 | 3/16 | *7/32 | .55 | \$1.00 | \$5.65 | 00-K | |
| 0-K | 3/8 x 7/8 x 5 1/2 | 5/8 | 3/16 | *7/32 | .85 | 1.00 | 6.00 | 0-K | |
| 1-K | 1/2 x 1 1/8 x 6 5/8 | 3/4 | 1/4 | 1/4 | 1.90 | 1.15 | 6.75 | 1-K | |
| 2-K | 5/8 x 1 3/8 x 7 1/2 | 3/4 | 1/4 | 1/4 | 2.25 | 1.15 | 8.00 | 2-K | |
| REVOLVING HEAD—THREE PAIRS OF KNURLS | | | | | | | | | |
| 11-K | 1/2 x 1 1/8 x 6 5/8 | 3/4 | 1/4 | 1/4 | 1.90 | 1.15 | 9.00 | 11-K | |
| 12-K | 5/8 x 1 3/8 x 6 5/8 | 3/4 | 1/4 | 1/4 | 2.25 | 1.15 | 10.50 | 12-K | |

*Hole, old diameter 1/4 inch.

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KNURLS FOR WILLIAMS' KNURLING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"

DIAMOND PATTERN



Coarse
14 Pitch



Medium
21 Pitch



Fine
33 Pitch

STRAIGHT-LINE PATTERN



Coarse
14 Pitch



Medium
21 Pitch



Fine
33 Pitch

Note: "Pitch" means number of teeth per linear inch.



Illustrations above show actual size of Knurling

Williams' Knurls are made to close limits in all respects and, being accurately cut, they assure sharp and perfect teeth in the knurled product. The hole is concentric with and parallel to the cutting face, insuring uniform, clean cut results. All Knurls are made from high grade tool steel and are specially hardened and tempered.

Furnished in pairs to fit standard makes of Knurling Tools and supplied in two Patterns—"Diamond" and "Straight-Line." Three different pitches in each Pattern—Coarse, 14 pitch; Medium, 21 pitch; Fine, 33 pitch; all as illustrated above. When ordering, always specify Pattern and pitch desired.

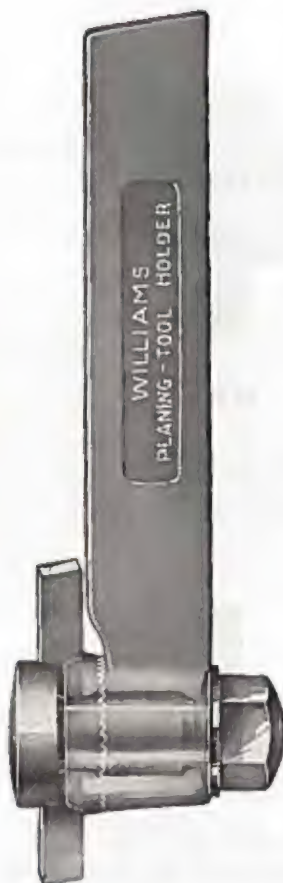
"Diamond" Pattern, Medium (21 pitch) will be furnished, unless otherwise specified.

| For Knurling Tool No. | Knurls, Size | | | | LIST PRICE Per Pair | For Knurling Tool No. |
|-----------------------------|--------------|-----------|------|-------|---------------------------|-----------------------------|
| | Diameter | Thickness | Face | Hole | | |
| 00-K | 5/8 | 5/16 | 3/16 | *7/32 | \$1.00 | 00-K |
| 0-K | 5/8 | 5/16 | 3/16 | *7/32 | 1.00 | 0-K |
| 1-K | 3/4 | 3/8 | 1/4 | 1/4 | 1.15 | 1-K |
| 2-K | 3/4 | 3/8 | 1/4 | 1/4 | 1.15 | 2-K |
| 11-K | 3/4 | 3/8 | 1/4 | 1/4 | 1.15 | 11-K |
| 12-K | 3/4 | 3/8 | 1/4 | 1/4 | 1.15 | 12-K |

*Hole, old diameter 1/4 inch.

WILLIAMS' PLANING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"



The substantial Bolt-fastening
and serrated Adjustment Ring

This construction
affords most ready
release of Cutter
for easy adjust-
ment.

The serrations in
Holder provide
maximum number
of cutter adjust-
ments.

Furnished with Cutter and Wrench

For General Description, see page 85.



A rugged, substantial and efficient tool on either Lathe or Planer. Because of its numerous angles of adjustment it also makes an excellent Offset Turning Tool.

The construction assures perfect seat and holding qualities for the Cutters; the convex face of Clamp Nut provides uniform locking pressure for Cutters of either square or rectangular form; the numerous serrations in Holder provide for quick, fine and maximum number of Cutter adjustments unequaled in other designs.

The serrated washer, or Adjustment Ring, which sustains the fastening and working strains, is hardened and tempered. Should it wear in prolonged service, a new Ring *only* is required—not a complete Holder.

| No. | Holder, Size | Cutter Size | LIST PRICE | | | No. |
|-----|----------------------|-------------|-----------------------------|-------------------------------------|--|-----|
| | | | Extra Adjustment Ring | Cutter Only, High Speed Steel | Complete Holder, High Speed Cutter | |
| 91 | 1/2 x 1 x 7 | 1/4 x 3/8 | \$.60 | \$.35 | \$ 4.65 | 91 |
| 92 | 5/8 x 1 1/4 x 8 1/2 | 5/16 x 7/16 | .08 | .55 | 6.00 | 92 |
| 93 | 3/4 x 1 1/2 x 10 1/4 | 3/8 x 1/2 | .83 | .80 | 7.85 | 93 |
| 94 | 1 x 1 3/4 x 13 1/4 | 1/2 x 3/4 | 1.05 | 1.95 | 12.40 | 94 |
| 95 | 1 3/8 x 2 x 16 1/2 | 5/8 x 7/8 | 1.50 | 3.35 | 21.75 | 95 |
| 96 | 1 3/4 x 2 3/8 x 19 | 3/4 x 1 | 2.25 | 5.00 | 39.00 | 96 |
| 97 | 2 1/8 x 2 3/4 x 22 | 7/8 x 1 1/8 | 3.38 | 8.20 | 57.00 | 97 |

Weights, page L.

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WILLIAMS' LATHE TOOL SETS

"THE HOLDERS THAT HOLD"

High Speed Steel Cutters

Convenient—Efficient—Economical—Superior

Williams' Holders save all lost time of men and machines waiting for tools. Nearly all tool-grinding time. All blacksmith work. Practically all loss of costly high speed steel.

Six "always ready" Sets illustrated below, provide for complete Lathe service—Turning, Boring, Threading, Cutting-Off and Side work—in a minimum number of tools, unequalled elsewhere—High Speed Cutters and Finished Wrenches are provided throughout.

Williams' Holders are made of special steel, heat-treated and hardened. No scoring, burring or breaking down by tool-post screw. Reveled nose permits working in close quarters.

ONE Williams' Holder takes BOTH cutting-off and side blades. A tool that performs both classes of work by the mere substitution of suitable cutters, tells its own story of economy.

Each Williams' Boring Tool takes SIX or more sizes of Bars WITHOUT using bushings. ONE tool holds MANY Bars—"Sleeve" as illustrated and "Plain" as lower price.



Williams' Turning Tools have Large Alloy Steel Screw—heat-treated, unbreakable. Their accurately broached hole provides rigid seat for cutter—no chatter, no breakage.

Williams' Threading Tools Nos. C-50 and C-51 with Formed Cutter assure threads that fit perfectly, since in resharpening the Cutter, it is necessary to grind its top edge only. The point will always retain the proper form and angle.

Williams' Sleeve Boring-Bar fastening provides for the rapid adjustment of either straight or angular cutters without use of extra parts. It is stronger than others of same general design.

"Always ready" sets of Williams' Tool Holders, with a minimum number of tools, provide for greatest economy and service in lathe work.

| Set No. | For Lathes of Approx. * Swing Inches | WILLIAMS' TOOL HOLDERS IN SETS | | | | | | | | | Quantity of Tools in Set | LIST PRICE Complete Sets |
|---------|--------------------------------------|--------------------------------|--------------------|--------------|-----------|----------------------------|--------------|-----------|--------------------|-----------------|--------------------------|--------------------------|
| | | Size of Holder Shank | Turning Tools | | | Cutting-off and Side Tools | | | Threading Tool No. | Boring Tool No. | | |
| | | | Straight Shank No. | Offset Shank | | Straight Shank No. | Offset Shank | | | | | |
| | | | | R. H. No. | L. H. No. | | R. H. No. | L. H. No. | | | | |
| 00 | 7 to 10 | 5/16 x 3/4 | 00-S | 00-R | 00-L | N-020-R | N-030-R | N-030-L | — | 080 | 7 | \$23.35 |
| 0 | 10 to 12 | 3/8 x 7/8 | 0-S | 0-R | 0-L | N-20-R | N-30-R | N-30-L | C-50 | 80 | 8 | 29.30 |
| 1 | 14 to 16 | 1/2 x 1-1/8 | 1-S | 1-R | 1-L | N-21-R | N-31-R | N-31-L | C-51 | 81 | 8 | 35.55 |
| 2 | 10 to 18 | 5/8 x 1-3/8 | 2-S | 2-R | 2-L | N-22-R | N-32-R | N-32-L | — | 82 | 7 | 40.00 |
| 3 | 18 to 20 | 3/4 x 1-5/8 | 3-S | 3-R | 3-L | N-23-R | N-33-R | 33-L | — | 83 | 7 | 55.25 |
| 4 | 24 to 30 | 7/8 x 1-3/4 | 4-S | 4-R | 4-L | N-24-R | N-34-R | 34-L | — | — | 6 | 58.20 |

* Be careful to measure the opening in tool-post before ordering Sets. Due to a considerable variation in the proportions of lathes as furnished by different manufacturers, it is impossible to state definitely the "swing" of lathe best adapted to a given size Tool Holder.

WILLIAMS' HIGH SPEED STEEL CUTTERS
FOR WILLIAMS' TOOL HOLDERS

Require minimum of grinding only for use in Holders. All Cutters are hardened.

| For Turning-Tool Holders | | | | For Williams' Boring Bars | | | | |
|--|--------------|--------|-----------------------|---------------------------|---------------------|--------------|----------------|-----------------------|
| No. | CUTTER, SIZE | | LIST Each, High Speed | Bar Diam. | For Use at Angle of | CUTTER, SIZE | | LIST Each, High Speed |
| | Square | Length | | | | Square | Length | |
| 00 & 0200 | 3/16 | 1 7/8 | \$.15 | 1/2 | 90° 45° | 3/16 | 1 1 1/2 | \$.10 .12 |
| 0 & 200 | 1/4 | 2 3/8 | .20 | 5/8 | 90° 45° | 3/16 | 1 1 1/2 | .10 .12 |
| 1 & 201 | 5/16 | 2 7/8 | .35 | 3/4 | 90° 45° | 1/4 1/4 | 1 1/4 2 | .15 .19 |
| 2 & 202 | 3/8 | 3 3/8 | .55 | 15/16 | 90° 45° | 5/16 5/16 | 1 1/2 2 1/2 | .24 .32 |
| 3 | 7/16 | 3 3/4 | .90 | 1 1/8 | 90° 45° | 3/8 3/8 | 1 7/8 3 | .35 .50 |
| 4 & 204 | 1/2 | 4 1/8 | 1.30 | 1 5/16 | 90° 45° | 3/8 3/8 | 2 1/8 3 1/4 | .40 .55 |
| 5 | 5/8 | 4 3/4 | 2.35 | 1 1/2 | 90° 45° | 7/16 7/16 | 2 1/4 3 3/8 | .60 .85 |
| 6 | 3/4 | 5 1/2 | 3.85 | 1 13/16 | 90° 45° | 1/2 1/2 | 2 5/8 4 | .90 1.30 |
| † Cutters of these sizes are also suitable for turning when used in Threading-Tool, Nos. S-50 to S-52. | | | | 2 1/4 | 90° 45° | 5/8 5/8 | 3 1/8 4 3/4 | 1.70 2.35 |

| For Threading-Tool Holders | | | | For Planing-Tool Holders | | | |
|---|--------------|--------|---------------------------------------|--------------------------|--------------|--------|-----------------------|
| No. | CUTTER, SIZE | | LIST Each, High Speed Finished Cutter | No. | CUTTER, SIZE | | LIST Each, High Speed |
| | Square | Length | | | Flat | Length | |
| S-50 | 1/4 | 2 3/8 | \$.45 | 91 | 1/4 x 3/8 | 2 1/2 | \$.35 |
| S-51 | 5/16 | 2 7/8 | .55 | 92 | 5/16 x 7/16 | 3 | .55 |
| S-52 | 3/8 | 3 3/8 | .70 | 93 | 3/8 x 1/2 | 3 1/2 | .80 |
| Turning-Tool Cutters marked † are suitable for turning work in Threading-Tool Holders. See table above. | | | | 94 | 1/2 x 3/4 | 4 1/4 | 1.95 |
| | | | | 95 | 5/8 x 7/8 | 5 | 3.35 |
| | | | | 96 | 3/4 x 1 | 6 | 5.00 |
| | | | | 97 | 7/8 x 1 1/8 | 7 | 8.20 |

| Bevel For Cutting-Off Tool Holders | | | | | Heavy Bevel For Side-Tool Holders | | | | |
|------------------------------------|--------------|----------------------------|--------------|-----------------------|-----------------------------------|-------------|----------------------------|-------------|-----------------------|
| OLD Cutter Blade Finished | | *NEW Cutter Blade Finished | | LIST Each, High Speed | OLD Cutter Blade Finished | | *NEW Cutter Blade Finished | | LIST Each, High Speed |
| No. | Size | No. | Size | | No. | Size | No. | Size | |
| 020-030 | 5/64 x 1/2 | N-020-N-030 | 5/64 x .475 | \$.60 | 020-030 | 1/8 x 1/2 | N-020-N-030 | 1/8 x .475 | \$.60 |
| 20- 30 | 3/32 x 5/8 | N20- N30 | 3/32 x .595 | .65 | 20- 30 | 5/32 x 5/8 | N20- N30 | 5/32 x .595 | .90 |
| 21- 31 | 1/8 x 3/4 | N21- N31 | 1/8 x .735 | .90 | 21- 31 | 3/16 x 3/4 | N21- N31 | 3/16 x .735 | 1.40 |
| 22- 32 | 1/8 x 7/8 | N22- N32 | 1/8 x .870 | 1.30 | 22- 32 | 1/4 x 7/8 | N22- N32 | 1/4 x .870 | 2.30 |
| 23- 33 | 3/16 x 1 | N23- N33 | 3/16 x .940 | 2.15 | 23- 33 | 5/16 x 1 | N23- N33 | 5/16 x .940 | 3.40 |
| 24- 34 | 3/16 x 1-1/8 | N24- N34 | 3/16 x 1.100 | 2.90 | 24- 34 | 3/8 x 1-1/8 | N24- N34 | 3/8 x 1.100 | 5.00 |
| 25- 35 | 1/4 x 1-1/8 | N25- N35 | 1/4 x 1.100 | 4.00 | | | | | |





* New Cutter Blades will not fit old Holders, nor old Blades, new Holders.

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WILLIAMS' HIGH SPEED STEEL

IN 3 FEET LENGTHS

Heat treatment instructions for Williams' High Speed Tool Holder Steel, listed below, will be furnished with each shipment of these bars.

| Squares, for Use with | | LIST PRICE 3 Feet Lengths Annealed High Speed |
|---|--|--|
|  Williams' Turning, Boring and Threading-Tool Holders | Size, Square | |
| | 3/16 | \$ 1.40 |
| | 1/4 | 2.25 |
| | 5/16 | 3.40 |
| | 3/8 | 4.80 |
| | 7/16 | 6.30 |
| | 1/2 | 8.00 |
| | 5/8 | 12.50 |
| | 3/4 | 17.80 |
| Flats, for Use with | | LIST PRICE 3 Feet Lengths Annealed High Speed |
|  Williams' Planing-Tool Holders | Size, Flat Section | |
| | 1/4 x 3/8 | \$ 3.50 |
| | 5/16 x 7/16 | 4.80 |
| | 3/8 x 1/2 | 6.60 |
| | 1/2 x 3/4 | 12.50 |
| | 5/8 x 7/8 | 17.50 |
| | 3/4 x 1 | 23.25 |
| | 7/8 x 1 1/8 | 30.70 |
| Bevels, (Cutting-off) for Use with | | LIST PRICE 3 Feet Lengths Annealed High Speed |
|  Williams' Cutting-off and Side-Tool Holders | †Size Section for Cutting-off Blade | |
| | 5/64 x 1/2 | \$ 2.60 |
| | 3/32 x 5/8 | 2.70 |
| | 1/8 x 3/4 | 4.00 |
| | 1/8 x 7/8 | 4.35 |
| | 3/16 x 1 | 6.75 |
| | 3/16 x 1 1/8 | 7.50 |
| | 1/4 x 1 1/8 | 10.40 |
| Heavy (Side Tool) Bevels, for Use with | | LIST PRICE 3 Feet Lengths Annealed High Speed |
|  Williams' Cutting-off and Side-Tool Holders | †Size Section for Side Blade | |
| | 1/8 x 1/2 | \$ 2.80 |
| | 5/32 x 5/8 | 3.70 |
| | 3/16 x 3/4 | 4.70 |
| | 1/4 x 7/8 | 7.00 |
| | 5/16 x 1 | 9.10 |
| | 3/8 x 1 1/8 | 12.45 |

† Bevel Steel for Cutting-off and Side Blades requires grinding on edges to fit Williams' Holders exactly. Finished sizes are given.

WILLIAMS' + "VULCAN"
DROP-FORGED LATHE DOGS
WITH BENT TAIL AND ONE SCREW



Safety Dog
and Screw



Safety Screw
and Wrench



Non-Safety Dog
with
Square Hd. Screw

* Furnished with
Interchangeable Screws,
either Safety or Non-Safety

Safety-for-the-operator and better balance when on the lathe are material improvements which have been attained in this design.

The Screws are of special steel, hardened and tempered, and are threaded U. S. Standard, except that those above 1 inch diameter have eight threads per inch. They are supplied in two types, Safety and Non-Safety, as illustrated. See description, opposite page.

(Continued on opposite page)

Dogs with Safety Screws will be supplied, unless otherwise specified.

| No. | Capacity | SCREWS | | | | | | LIST PRICE | | No. |
|------|----------|-------------|-------------------------|------------------------|--------|-------------------|------------------------|-----------------------------------|--------------------------------|-----|
| | | Square Head | | | Safety | | | Safety Dog Wrench, Extra | Dog with Either Screw | |
| | | Size | | List Price, Each | Size | | List Price, Each | | | |
| | | Diam. | Length Under Head | | Diam. | Extreme Length | | | | |
| * 1 | 3/8 | 7/16 | 1 | \$.25 | 7/16 | 5/8 | \$.20 | \$.12 | † \$ 1.00 | 1 |
| * 2 | 1/2 | 9/16 | 1 1/4 | .30 | 9/16 | 13/16 | .24 | .14 | † 1.10 | 2 |
| * 3 | 3/4 | 5/8 | 1 5/8 | .37 | 5/8 | 1 1/16 | .30 | .16 | † 1.20 | 3 |
| * 4 | 1 | 5/8 | 2 | .40 | 5/8 | 1 1/4 | .36 | .16 | † 1.40 | 4 |
| * 5 | 1 1/4 | 3/4 | 2 1/4 | .55 | 3/4 | 1 3/8 | .42 | .20 | † 1.70 | 5 |
| * 6 | 1 1/2 | 7/8 | 2 7/16 | .75 | 7/8 | 1 11/16 | .60 | .24 | † 2.00 | 6 |
| * 7 | 1 3/4 | 7/8 | 2 7/16 | .75 | 7/8 | 1 11/16 | .60 | .24 | † 2.40 | 7 |
| * 8 | 2 | 1 | 2 3/4 | .95 | 1 | 1 7/8 | .72 | .30 | † 2.80 | 8 |
| * 9 | 2 1/2 | 1 1/8 | 3 | 1.15 | 1 1/8 | 2 | .86 | .38 | † 3.60 | 9 |
| * 10 | 3 | 1 1/4 | 3 1/4 | 1.35 | 1 1/4 | 2 1/8 | 1.04 | .48 | † 4.60 | 10 |
| 11 | 3 1/2 | 7/8 | 3 1/2 | .64 | 1 3/8 | 2 1/2 | 1.26 | .60 | † 6.00 | 11 |
| 12 | 4 | 7/8 | 3 3/4 | .70 | 1 1/2 | 2 5/8 | 1.50 | .74 | † 9.00 | 12 |
| * 13 | 5 | 1 5/8 | 4 1/2 | 2.25 | 1 5/8 | 3 3/8 | 1.80 | .90 | † 16.00 | 13 |

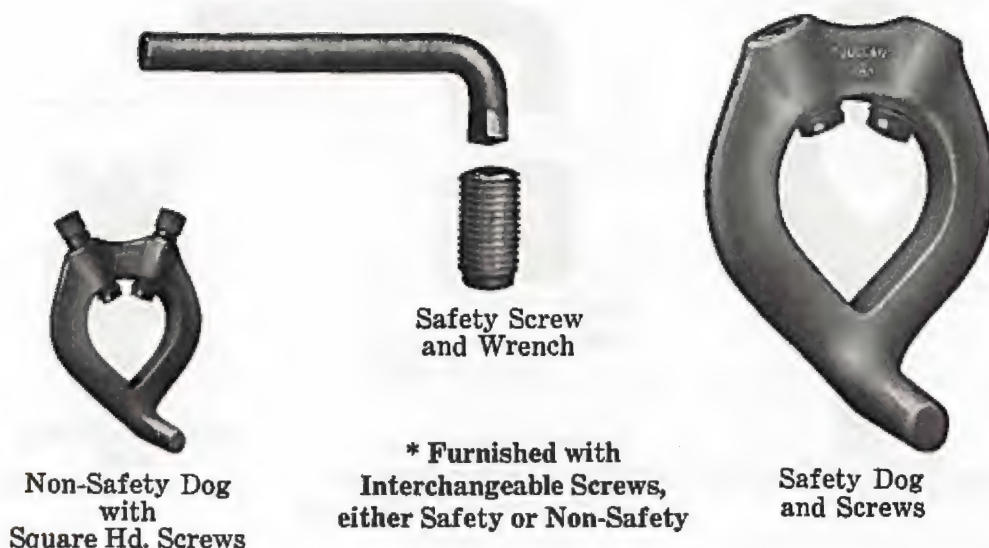
† Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price stated in table.

★ REGISTERED TRADE MARK

Weights, pages L and M.

11-42

WILLIAMS' + "VULCAN"
DROP-FORGED HEAVY SERVICE LATHE DOGS
WITH BENT TAIL AND TWO SCREWS



* Furnished with
Interchangeable Screws,
either Safety or Non-Safety

(Continued from opposite page)

SCREWS. For the convenience of users and to permit jobbers to carry a reduced stock of Dogs, the size (diam. and thread) of Non-Safety Screws will be the same as for Safety Screws in corresponding Dogs. In other words, the two types of Screws can be interchanged. Consequently, if an assortment of Dogs complete with Safety Screws is carried, and also an assortment of extra Non-Safety Screws, the latter can be readily substituted at any time. This change is already effective in Dogs marked * in the tables. All other sizes of single and double-screw Dogs will be altered similarly as rapidly as present stock of Dogs with Non-Safety Screws is exhausted.

When ordering extra Screws, please state whether Safety or Non-Safety type is wanted; if latter, specify also diam. of screw.

Dogs with Safety Screws will be supplied, unless otherwise specified.

| No. | Capacity | SCREWS | | | | | | LIST PRICE | | No. |
|-------|----------|-------------|-------------------|------------------|--------|----------------|------------------|--------------------------|-----------------------|-----|
| | | Square Head | | | Safety | | | Safety Dog Wrench, Extra | Dog with Either Screw | |
| | | Size | | List Price, Each | Size | | List Price, Each | | | |
| | | Diam. | Length Under Head | | Diam. | Extreme Length | | | | |
| 112 | 4 | 7/8 | 3 3/4 | \$.70 | 1 1/2 | 2 5/8 | \$1.50 | \$.74 | †\$16.00 | 112 |
| * 113 | 5 | 1 5/8 | 4 1/2 | 2.25 | 1 5/8 | 3 3/8 | 1.80 | .90 | † 24.00 | 113 |
| * 114 | 6 | 1 5/8 | 4 1/2 | 2.25 | 1 5/8 | 3 3/8 | 1.80 | .90 | † 34.00 | 114 |

† Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price stated in table.

+ REGISTERED TRADE MARK

Weights, page M.

WILLIAMS' "VULCAN"
DROP-FORGED LATHE DOGS
WITH STRAIGHT TAIL AND ONE SCREW



Safety Dog
and Screw



Safety Screw
and Wrench



Non-Safety Dog
with
Square Hd. Screws

* Furnished with
Interchangeable Screws,
either Safety or Non-Safety

Safety-for-the-operator and better balance when on the lathe are material improvements which have been attained in this design.

The Screws are of special steel, hardened and tempered, and are threaded U. S. Standard, except that those above 1 inch diameter have eight threads per inch. They are supplied in two types, Safety and Non-Safety, as illustrated. See description, opposite page.

(Continued on opposite page)

Dogs with Safety Screws will be supplied, unless otherwise specified.

| No. | Capacity | SCREWS | | | | | | LIST PRICE | | No. |
|------|----------|-------------|-------------------------|------------------------|--------|-------------------|------------------------|-----------------------------------|--------------------------------|-----|
| | | Square Head | | | Safety | | | Safety Dog Wrench, extra | Dog with either Screw | |
| | | Size | | List Price, each | Size | | List Price, each | | | |
| | | Diam. | Length Under Head | | Diam. | Extreme Length | | | | |
| * 21 | 3/8 | 7/16 | 1 | \$.25 | 7/16 | 5/8 | \$.20 | \$.12 | † \$ 1.00 | 21 |
| * 22 | 1/2 | 9/16 | 1 1/4 | .30 | 9/16 | 13/16 | .24 | .14 | † 1.10 | 22 |
| * 23 | 3/4 | 5/8 | 1 5/8 | .37 | 5/8 | 1 1/16 | .30 | .16 | † 1.20 | 23 |
| * 24 | 1 | 5/8 | 2 | .40 | 5/8 | 1 1/4 | .36 | .16 | † 1.40 | 24 |
| * 25 | 1 1/4 | 3/4 | 2 1/4 | .55 | 3/4 | 1 3/8 | .42 | .20 | † 1.70 | 25 |
| * 26 | 1 1/2 | 7/8 | 2 7/16 | .75 | 7/8 | 1 11/16 | .60 | .24 | † 2.00 | 26 |
| * 27 | 1 3/4 | 7/8 | 2 7/16 | .75 | 7/8 | 1 11/16 | .60 | .24 | † 2.40 | 27 |
| * 28 | 2 | 1 | 2 3/4 | .95 | 1 | 1 7/8 | .72 | .30 | † 2.80 | 28 |
| * 29 | 2 1/2 | 1 1/8 | 3 | 1.15 | 1 1/8 | 2 | .86 | .38 | † 3.60 | 29 |
| * 30 | 3 | 1 1/4 | 3 1/4 | 1.35 | 1 1/4 | 2 1/8 | 1.04 | .48 | † 4.60 | 30 |
| 31 | 3 1/2 | 7/8 | 3 1/2 | .64 | 1 3/8 | 2 1/2 | 1.26 | .60 | † 6.00 | 31 |
| 32 | 4 | 7/8 | 3 3/4 | .70 | 1 1/2 | 2 5/8 | 1.50 | .74 | † 9.00 | 32 |
| * 33 | 5 | 1 5/8 | 4 1/2 | 2.25 | 1 5/8 | 3 3/8 | 1.80 | .90 | † 16.00 | 33 |

† Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price stated in table.

★ REGISTERED TRADE MARK

Weights, page M.

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**WILLIAMS' + "VULCAN"
 DROP-FORGED HEAVY SERVICE LATHE DOGS
 WITH STRAIGHT TAIL AND TWO SCREWS**



Non-Safety Dog
with
Square Hd. Screw



Safety Screw
and Wrench

* **Furnished with
 Interchangeable Screws,
 either Safety or Non-Safety**



Safety Dog and Screws

(Continued from opposite page)

SCREWS. For the convenience of users and to permit jobbers to carry a reduced stock of Dogs, the size (diam. and thread) of Non-Safety Screws will be the same as for Safety Screws in corresponding Dogs. In other words, the two types of Screws can be interchanged. Consequently, if an assortment of Dogs complete with Safety Screws is carried, and also an assortment of extra Non-Safety Screws, the latter can be readily substituted at any time. This change is already effective in Dogs Nos. 21, 22, 23, 24, 25, 26, 28 and 29, marked * in table on opposite page. All other sizes of single and double screw Dogs will be altered similarly as rapidly as present stock of Dogs with Non-Safety Screws is exhausted.

When ordering extra Screws, please state whether Safety or Non-Safety type is wanted; if latter, specify also diam. of screw.

Dogs with Safety Screws will be supplied, unless otherwise specified.

| No. | Capacity | SCREWS | | | | | | LIST PRICE | | No. |
|-------|----------|-------------|-------------------|------------------|--------|----------------|------------------|--------------------------|-----------------------|-----|
| | | Square Head | | | Safety | | | Safety Dog Wrench, Extra | Dog with either Screw | |
| | | Size | | List Price, Each | Size | | List Price, Each | | | |
| | | Diam. | Length Under Head | | Diam. | Extreme Length | | | | |
| 132 | 4 | 7/8 | 3 3/4 | \$.70 | 1 1/2 | 2 5/8 | \$1.50 | \$.74 | †\$16.00 | 132 |
| * 133 | 5 | 1 5/8 | 4 1/2 | 2.25 | 1 5/8 | 3 3/8 | 1.80 | .90 | † 24.00 | 133 |
| * 134 | 6 | 1 5/8 | 4 1/2 | 2.25 | 1 5/8 | 3 3/8 | 1.80 | .90 | † 34.00 | 134 |

† Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price stated in table.

† REGISTERED TRADE MARK

Weights, page M.

**WILLIAMS' + "VULCAN"
DROP-FORGED MILLING MACHINE DOGS**

With Flat, Bent Tail



These are designed for taper work carried between centers on milling machines, the flat tail works in the head-slot without the back-lash unavoidable in Dogs with taper tail. They serve also as a heavy pattern Lathe Dog.

The heads are made of sufficient size to permit re-tapping for one or two larger sizes of screws as the threads wear.

The Screws, threaded U. S. Standard, are made of a special grade of steel and are hardened and tempered.

| Number | Capacity | Screw | | LIST PRICE | | Number |
|--------|----------|----------|-------------------|--------------------|--------------|--------|
| | | Diameter | Length Under Head | Extra Screws, Each | Dog Complete | |
| 42 | 1/2 | 3/8 | 1 1/4 | \$.20 | \$1.10 | 42 |
| 43 | 3/4 | 7/16 | 1 5/8 | .24 | 1.20 | 43 |
| 44 | 1 | 1/2 | 2 | .30 | 1.40 | 44 |
| 45 | 1 1/4 | 1/2 | 2 1/4 | .32 | 1.70 | 45 |
| 46 | 1 1/2 | 9/16 | 2 3/8 | .36 | 2.00 | 46 |
| 47 | 1 3/4 | 5/8 | 2 1/2 | .40 | 2.40 | 47 |
| 48 | 2 | 5/8 | 2 7/8 | .40 | 2.80 | 48 |

Weights, page M.

✦ REGISTERED TRADE MARK

11-42

**WILLIAMS' + "VULCAN"
DROP-FORGED CLAMP LATHE DOGS**



These are drop-forged from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase further their strength and reduce the liability of springing.

The Screws, threaded U. S. Standard, are made of a special grade of steel, and are hardened and tempered. The Nuts are case-hardened. Extra Screws and Nuts carried in stock.

The Nuts furnish ready means of arrangement for the minimum projection of Screws beyond the body of Dog and thus lessen the danger to the operator when tool is in use.

| Number | Capacity | | Screws | | LIST PRICE, Dog Complete | Number |
|--------|--------------------|-------------------------------|----------|-------------------------|-----------------------------------|--------|
| | Maximum Opening | Distance Between Screws | Diameter | Length Under Head | | |
| 61 | 1 5/8 | 1 3/4 | 5/16 | 2 3/4 | \$3.00 | 61 |
| 62 | 1 7/8 | 2 1/4 | 3/8 | 3 5/16 | 4.00 | 62 |
| 63 | 2 1/2 | 2 3/4 | 7/16 | 4 1/4 | 5.00 | 63 |
| 64 | 3 1/4 | 3 1/2 | 1/2 | 5 3/8 | 7.00 | 64 |

Weights, page M.

† REGISTERED TRADE MARK

WILLIAMS' + "VULCAN"
DROP-FORGED HEAVY SERVICE "C" CLAMPS



These are drop-forged from a strong, tough grade of carefully selected steel. Specially heat-treated to increase further their strength and reduce the liability of springing, they are the strongest "C" Clamps on the market.

The Screws, threaded U. S. Standard, are made of a special grade of steel and are hardened and tempered.

With Long Screws the minimum capacity of all Clamps will be 0.

Clamps with Standard Screws will be furnished, unless otherwise specified.

| No. | Capacity | | Depth of Throat Center of Screw | Extreme Dimensions of Body | | Standard Screw | | LIST PRICE | | | | No. |
|-------|----------|----------------------|---------------------------------|----------------------------|-------|----------------|-------------------|---------------|-----------|-----------------------------------|-------|-----|
| | Max. | Min. With Std. Screw | | Length | Width | Diam. | Length Under Head | Extra Screws | | Clamps Complete with Either Screw | | |
| | | | | | | | | Standard Each | Long Each | | | |
| 0 | 3/4 | 0 | 3/4 | 2 1/4 | 2 | 5/16 | 1 1/2 | \$.20 | | \$ 1.00 | 0 | |
| 1 | 1 1/4 | 0 | 1 1/8 | 3 1/4 | 2 3/4 | 3/8 | 2 1/4 | .24 | | 1.50 | 1 | |
| 1 1/2 | 1 3/4 | 11/16 | 1 1/2 | 4 1/4 | 3 5/8 | 1/2 | 2 1/4 | .28 | \$.80 | 2.50 | 1 1/2 | |
| 2 | 2 1/4 | 7/8 | 1 3/4 | 5 1/2 | 4 1/2 | 5/8 | 2 7/8 | .40 | 1.16 | 3.50 | 2 | |
| 3 | 3 1/4 | 1 5/16 | 2 3/8 | 7 1/4 | 5 3/4 | 3/4 | 3 3/4 | .56 | 1.56 | 5.00 | 3 | |
| 4 | 4 1/2 | 2 | 2 3/4 | 8 7/8 | 6 1/2 | 7/8 | 4 1/2 | .76 | 2.00 | 6.50 | 4 | |
| 5 | 5 1/2 | 2 1/2 | 3 1/8 | 10 3/8 | 7 | 7/8 | 5 3/8 | 1.00 | 2.50 | 8.00 | 5 | |
| 6 | 6 1/2 | 3 1/16 | 3 3/8 | 12 | 7 7/8 | 1 | 5 7/8 | 1.30 | 3.10 | 10.00 | 6 | |
| 8 | 8 1/2 | 4 1/4 | 3 3/4 | 14 3/8 | 8 1/2 | 1 1/8 | 7 | 1.70 | 4.20 | 14.00 | 8 | |
| 10 | 10 1/2 | 6 3/8 | 4 1/8 | 16 7/8 | 9 | 1 1/8 | 7 | 1.70 | 5.10 | 19.00 | 10 | |
| 12 | 12 1/2 | 7 5/8 | 4 1/2 | 19 3/8 | 9 3/4 | 1 1/4 | 8 | 2.40 | 7.20 | 25.00 | 12 | |

Weights, page M.

+ REGISTERED TRADE MARK

11-42

WILLIAMS' + "AGRIPPA"
DROP-FORGED GENERAL SERVICE "C" CLAMPS



The design of these lighter Clamps enables them to provide the service formerly rendered by the heavier and clumsier steel clamps made by other processes. They are drop-forged from a special grade of strong, tough steel and are heat-treated. This process increases still further their strength and reduces any liability of springing.

The Screws, fitted with adjustable handle, are made of special steel, hardened and tempered; threaded U. S. Standard. The Swivels are drop-forged.

| No. | Capacity | | Depth of Throat from Center of Screw | Extreme Dimensions of Body | | Screw | | Size Handle | | LIST PRICE | | | No. |
|-----|----------|------|--------------------------------------|----------------------------|-------|-------|------------------------------|-------------|-------|--------------------------------|-------------------|----------------|-----|
| | Max. | Min. | | Length | Width | Diam. | Length under Hd. inc. Swivel | Diam. | Lgth. | Extra Screw, Handle and Swivel | Extra Swivel Only | Clamp Complete | |
| 103 | 3 | 0 | 2 | 6 7/8 | 4 3/8 | 5/8 | 5 5/8 | 5/16 | 5 1/2 | \$1.20 | \$.40 | \$ 4.00 | 103 |
| 104 | 4 | 0 | 2 3/8 | 8 1/4 | 5 1/8 | 3/4 | 6 7/8 | 3/8 | 7 | 1.40 | .50 | 4.50 | 104 |
| 106 | 6 | 2 | 2 1/2 | 10 3/8 | 5 3/8 | 3/4 | 6 7/8 | 3/8 | 7 | 1.40 | .50 | 5.50 | 106 |
| 108 | 8 | 4 | 2 5/8 | 12 1/2 | 5 1/2 | 3/4 | 6 7/8 | 3/8 | 7 | 1.40 | .50 | 6.50 | 108 |
| 110 | 10 | 6 | 2 3/4 | 14 5/8 | 5 3/4 | 3/4 | 6 7/8 | 3/8 | 7 | 1.40 | .50 | 7.50 | 110 |
| 112 | 12 | 8 | 2 7/8 | 16 7/8 | 6 | 3/4 | 6 7/8 | 3/8 | 7 | 1.40 | .50 | 8.50 | 112 |
| 115 | 15 | 10 | 3 1/16 | 20 1/4 | 6 1/2 | 7/8 | 8 1/8 | 7/16 | 8 | 2.40 | .60 | 11.00 | 115 |
| 118 | 18 | 13 | 3 1/4 | 23 1/2 | 7 | 7/8 | 8 1/8 | 7/16 | 8 | 2.40 | .60 | 14.00 | 118 |

Weights, page M.

✦ REGISTERED TRADE MARK

WILLIAMS' "SLIGHT SERVICE"

DROP-FORGED "C" CLAMPS

DISCONTINUED
WILL SUPPLY UNTIL
STOCK IS EXHAUSTED



Drop-forged from specially selected steel and heat-treated to increase their strength and to reduce the liability of springing. Their design is best adapted for use in the various wood and metal working fields which do not demand the extremes of strength and service for which "Vulcan" and "Agrippa" Clamps provide. They take the place of tools less dependable, yet frequently more costly.

The Screws are made from tough, wrought steel and threaded especially for strength and rapid adjustment. Furnished with wrought steel Swivel, as illustrated.

| No. | Capacity | | Depth of Throat from Center of Screw | Extreme Dimensions of Body | | Screw | | LIST PRICE | | | No. |
|-----|----------|------|--------------------------------------|----------------------------|-------|-------|-----------------|--------------------------|-------------------|-----------------|-----|
| | Max. | Min. | | Length | Width | Diam. | Length Over All | Screw, Handle and Swivel | Extra Swivel Only | Clamps Complete | |
| 502 | 2 | 0 | 1 3/4 | 4 3/8 | 3 1/4 | 1/2 | 4 3/8 | \$.60 | \$.10 | \$1.50 | 502 |
| 503 | 3 | 0 | 2 | 5 1/2 | 3 5/8 | 1/2 | 5 3/8 | .70 | .10 | 1.80 | 503 |
| 504 | 4 | 0 | 2 3/8 | 6 7/8 | 4 3/8 | 5/8 | 7 | .80 | .15 | 2.20 | 504 |
| 506 | 6 | 0 | 3 | 9 3/8 | 5 1/4 | 5/8 | 8 1/4 | 1.00 | .15 | 3.00 | 506 |
| 508 | 8 | 2 | 3 3/8 | 11 7/8 | 5 7/8 | 3/4 | 10 | 1.20 | .20 | 4.00 | 508 |
| 510 | 10 | 3 | 3 3/4 | 14 1/8 | 6 3/8 | 3/4 | 11 | 1.50 | .20 | 5.00 | 510 |
| 512 | 12 | 4 | 4 | 16 3/8 | 6 7/8 | 13/16 | 12 1/2 | 2.00 | .30 | 6.50 | 512 |

A special clamp No. 444, 4" capacity, with throat 1 1/2" deep, can be furnished; details on request. Weights, page M.

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WILLIAMS' DEEP THROAT "BODY BUILDERS"
DROP-FORGED "C" CLAMPS
FOR LIGHT DUTY
TWO STYLES—STANDARD AND SPATTER-RESISTING



Standard
Nos. 402 to 412



Spatter-Resisting
Nos. 402-S to 412-S

Especially designed for use where the clearance provided by a deep throat is required, as in body building, welding, wood working, etc. Drop-forged from an unusually strong special steel and heat-treated for maximum strength, they combine dependable strength with minimum weight. Finished in two styles:—

Standard for body-builders, woodworkers and kindred trades. All parts are shot-blasted.

Spatter-Resisting for welding, completely Cadmium-plated to resist the adherence of welding spatter to the body, swivel and screw.

The Screws are made from tough, wrought steel, heat-treated and threaded especially for strength and rapid adjustment. Furnished with wrought steel Swivel, as illustrated.

Standard Clamps will be furnished unless otherwise specified.

| No. | | Capacity | | Depth of Throat from Center of Screw | Extreme Dimensions of Body | | Screw | | LIST PRICE | | | | | | | |
|------|-------------------|----------|------|--------------------------------------|----------------------------|-------|-------|-----------------|------------|-------------------|-------------------|-----------------|-------------------|-------------------|-------------------|-----------------|
| | | | | | | | | | Standard | | | | Spatter-Resisting | | | |
| Std. | Spatter-Resisting | Max. | Min. | | Length | Width | Dia. | Length Over All | No. | Screw, and Swivel | Extra Swivel Only | Clamps Complete | No. | Screw, and Swivel | Extra Swivel Only | Clamps Complete |
| 402 | 402-S | 2 | 0 | 2 | 4 7/8 | 3 3/4 | 1/2 | 4 3/8 | 402 | \$.60 | \$.10 | \$1.50 | 402-S | \$.90 | \$.15 | \$1.80 |
| 403 | 403-S | 3 | 0 | 2 3/8 | 6 1/8 | 4 1/8 | 1/2 | 5 3/8 | 403 | .70 | .10 | 1.80 | 403-S | 1.10 | .15 | 2.25 |
| 404 | 404-S | 4 | 0 | 2 3/4 | 7 5/8 | 4 3/4 | 5/8 | 7 | 404 | .80 | .15 | 2.20 | 404-S | 1.35 | .20 | 2.90 |
| 406 | 406-S | 6 | 0 | 3 5/8 | 10 1/4 | 6 | 5/8 | 8 1/4 | 406 | 1.00 | .15 | 3.00 | 406-S | 1.60 | .20 | 3.75 |
| 408 | 408-S | 8 | 2 | 4 1/2 | 12 3/4 | 7 | 3/4 | 10 | 408 | 1.20 | .20 | 4.00 | 408-S | 1.85 | .25 | 4.75 |
| 410 | 410-S | 10 | 3 | 5 3/8 | 15 1/4 | 8 1/8 | 3/4 | 11 | 410 | 1.50 | .20 | 5.00 | 410-S | 2.10 | .25 | 6.00 |
| 412 | 412-S | 12 | 4 | 5 3/4 | 18 | 9 3/8 | 7/8 | 12 1/2 | 412 | 2.00 | .30 | 6.50 | 412-S | 2.60 | .35 | 7.50 |

A special clamp No. 444, 4" capacity, with throat 1 1/2" deep, can be furnished; details on request. Weights, page M.

WILLIAMS' + "VULCAN"
DROP-FORGED TOOL-MAKERS' "C" CLAMPS



With Plain Screw



With Swivel Screw

These Clamps are drop-forged from a strong, tough grade of steel and are heat-treated after forging to increase further their strength and reduce the liability of springing.

The Screws, with wings formed to permit use of lever, are supplied in two styles—Swivel and Plain. They are drop-forged from a special grade of steel and are hardened and tempered; threaded U. S. Standard.

Clamp bodies are shot-blasted; screws, black.

Clamps with Swivel Screw will be furnished, unless otherwise specified.

| No. | Capacity | | Depth of Throat | Extreme Dimensions | | Screw | | LIST PRICE | | | No. |
|-------------------|----------|--------|-----------------|--------------------|-------|-------|---------|------------------|-------------------|----------------|-----|
| | Max. | Min. | | Length | Width | Diam. | Length | Extra Screw Only | Extra Swivel Only | Clamp Complete | |
| WITH PLAIN SCREW | | | | | | | | | | | |
| 201 | 1 | 0 | 11/16 | 2 1/8 | 1 1/2 | 5/16 | 1 11/16 | \$.40 | ..... | \$1.00 | 201 |
| 202 | 2 | 5/16 | 13/16 | 3 3/8 | 1 7/8 | 3/8 | 2 7/16 | .50 | ..... | 1.30 | 202 |
| 203 | 3 | 11/16 | 15/16 | 4 1/2 | 2 1/8 | 3/8 | 3 3/16 | .60 | ..... | 1.70 | 203 |
| 204 | 4 1/4 | 1 3/16 | 1 1/8 | 6 3/8 | 2 1/2 | 7/16 | 4 1/8 | .80 | ..... | 2.50 | 204 |
| WITH SWIVEL SCREW | | | | | | | | | | | |
| 201 | 3/4 | 0 | 11/16 | 2 1/8 | 1 1/2 | 5/16 | 1 11/16 | \$.90 | \$.35 | \$1.50 | 201 |
| 202 | 1 3/4 | 5/16 | 13/16 | 3 3/8 | 1 7/8 | 3/8 | 2 7/16 | 1.00 | .35 | 1.80 | 202 |
| 203 | 2 3/4 | 11/16 | 15/16 | 4 1/2 | 2 1/8 | 3/8 | 3 3/16 | 1.20 | .35 | 2.30 | 203 |
| 204 | 4 | 1 3/16 | 1 1/8 | 6 3/8 | 2 1/2 | 7/16 | 4 1/8 | 1.50 | .50 | 3.20 | 204 |

Weights, page M.

+ REGISTERED TRADE MARK

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WILLIAMS' + "VULCAN"
 DROP-FORGED MACHINISTS' CLAMPS



These Clamps are drop-forged from a strong, tough grade of carefully selected steel; all are heat-treated to increase still further their strength and to reduce the liability of springing.

The knurled portion of the hardened and tempered Screws permits rapid and easy adjustment.

The edges of the jaws are ground bright, thus adding to the appearance of the Clamp.

When ordering extra Screws specify whether for *end* or *center*; lengths given are under-head dimensions and prices are for each of either screw.

Each Clamp is packed in a box for convenient shelving.

| No. | Capacity | | Screws | | | | LIST PRICE | | No. |
|-----|-------------------------|--------------------------------|--------|--------|--------|---------|-------------------------|-------------------|-----|
| | Maxi- mum Opening | Length Jaw from Screw | End | | Center | | Extra Screws Each | Complete Clamp | |
| | | | Diam. | Length | Diam. | Length | | | |
| 301 | 1 1/4 | 1 3/4 | 5/16 | 2 1/8 | 5/16 | 2 5/8 | \$.50 | \$3.00 | 301 |
| 302 | 2 1/4 | 2 1/4 | 3/8 | 3 1/4 | 3/8 | 3 15/16 | .70 | 4.00 | 302 |
| 303 | 3 1/4 | 2 3/4 | 7/16 | 4 5/8 | 7/16 | 5 1/4 | 1.00 | 5.00 | 303 |
| 304 | 4 1/4 | 3 1/4 | 1/2 | 5 3/4 | 1/2 | 6 1/2 | 1.40 | 6.00 | 304 |

Weights, page M.

♦ REGISTERED TRADE MARK

**WILLIAMS' + "VULCAN"
DROP-FORGED STRAP CLAMPS**



Plain Slot

Adjustable Step

Goose Neck

Finger, Double End

Finger, Single End

"U" Pattern

These forgings are made from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase their strength and stiffness.

On Planer, Lathe, Drill Press, Milling and Boring Machine work they are time-saving and effective—far more efficient than any make-shift clamp.

Because of draft or taper on forgings, minimum dimensions of slot are given.

PLAIN SLOT PATTERN

| No. | Length | Width | | Thickness | | Slot; Min. Dimensions | | LIST PRICE | No. |
|-----|--------|--------|--------|-----------|--------|-----------------------|-------|------------|-----|
| | | Ends | Center | Ends | Center | Length | Width | | |
| 54 | 4 | 1 3/16 | 1 5/8 | 1/2 | 3/4 | 1 3/8 | 11/16 | \$.60 | 54 |
| 56 | 6 | 1 1/4 | 1 3/4 | 9/16 | 7/8 | 2 1/16 | 11/16 | 1.00 | 56 |
| 58 | 8 | 1 1/2 | 2 1/8 | 3/4 | 1 1/8 | 2 13/16 | 13/16 | 1.70 | 58 |
| 59 | 10 | 1 3/4 | 2 1/2 | 15/16 | 1 3/8 | 3 11/16 | 15/16 | 2.80 | 59 |

ADJUSTABLE STEP PATTERN

| No. | Length | Width | | Thickness | | Slot; Min. Dimensions | | Screws | | LIST PRICE | | No. |
|-----|--------|--------|--------|-----------|--------|-----------------------|-------|--------|-------------------|--------------------|-----------------------|-----|
| | | Ends | Center | Ends | Center | Length | Width | Diam. | Length Under Head | Extra Screws, each | Complete Clamps, each | |
| 54A | 4 | 1 3/16 | 1 5/8 | 1/2 | 3/4 | 1 3/8 | 11/16 | 1/2 | 1 1/4 | \$.28 | \$1.10 | 54A |
| 56A | 6 | 1 1/4 | 1 3/4 | 9/16 | 7/8 | 2 1/16 | 11/16 | 5/8 | 1 1/2 | .36 | 1.70 | 56A |
| 58A | 8 | 1 1/2 | 2 1/8 | 3/4 | 1 1/8 | 2 13/16 | 13/16 | 3/4 | 1 3/4 | .60 | 2.60 | 58A |
| 59A | 10 | 1 3/4 | 2 1/2 | 15/16 | 1 3/8 | 3 11/16 | 15/16 | 7/8 | 2 1/8 | .70 | 4.00 | 59A |

GOOSE NECK PATTERN

| No. | Length | Width | | Thickness | | Slot; Min. Dimensions | | Neck Offset | LIST PRICE | No. |
|-----|--------|--------|--------|-------------|--------|-----------------------|-------|-------------|------------|-----|
| | | Ends | Center | Ends | Center | Length | Width | | | |
| 74 | 4 | 1 3/16 | 1 5/8 | 3/8 & 1/2 | 3/4 | 15/16 | 11/16 | 13/16 | \$.60 | 74 |
| 76 | 6 | 1 1/4 | 1 3/4 | 7/16 & 9/16 | 7/8 | 1 11/16 | 11/16 | 15/16 | 1.00 | 76 |
| 78 | 8 | 1 1/2 | 2 1/8 | 9/16 & 3/4 | 1 1/8 | 2 7/16 | 13/16 | 1 1/8 | 1.70 | 78 |

FINGER PATTERN, DOUBLE END

| No. | Length | Width Center | Thickness Center | Min. Diameter Hole | Finger Dimensions | LIST PRICE | No. |
|-----|--------|--------------|------------------|--------------------|-------------------|------------|-----|
| 30 | 3 | 1 1/2 | 5/8 | 11/16 | 1/2 x 1/2 | \$.40 | 30 |
| 35 | 3 1/2 | 1 5/8 | 3/4 | 11/16 | 5/8 x 5/8 | .50 | 35 |
| 40 | 4 | 1 13/16 | 7/8 | 13/16 | 3/4 x 3/4 | .70 | 40 |

FINGER PATTERN, SINGLE END

| No. | Length | Width | | Thickness | | Slot; Min. Dimensions | | Finger Dimensions | LIST PRICE | No. |
|-----|--------|----------|--------|-----------|--------|-----------------------|-------|-------------------|------------|-----|
| | | Flat End | Center | Flat End | Center | Length | Width | | | |
| 44 | 4 | 1 3/16 | 1 5/8 | 7/16 | 3/4 | 1 3/8 | 11/16 | 1/2 x 1/2 | \$.60 | 44 |
| 46 | 6 | 1 1/4 | 1 3/4 | 1/2 | 7/8 | 1 15/16 | 11/16 | 5/8 x 5/8 | 1.00 | 46 |
| 48 | 8 | 1 1/2 | 2 1/8 | 5/8 | 1 1/8 | 2 9/16 | 13/16 | 3/4 x 3/4 | 1.70 | 48 |

"U" PATTERN

| No. | Length | Maximum Width | Thickness | Slot; Min. Dimensions | | Finger Dimensions | LIST PRICE | No. |
|-----|--------|---------------|-----------|-----------------------|-------|-------------------|------------|-----|
| | | | | Length | Width | | | |
| 64 | 4 1/2 | 1 3/4 | 3/4 | 3 1/2 | 11/16 | 1/2 x 1/2 | \$.60 | 64 |
| 66 | 6 5/8 | 2 | 7/8 | 5 1/2 | 11/16 | 5/8 x 5/8 | 1.00 | 66 |
| 68 | 8 3/4 | 2 1/2 | 1 1/8 | 7 3/8 | 13/16 | 3/4 x 3/4 | 1.70 | 68 |

Weights, page M.

✦ REGISTERED TRADE MARK

11-42

WILLIAMS' + "VULCAN"
MACHINE HANDLE FORGINGS

UNFINISHED

With Smooth, Planished Surface

BALL PATTERN



| Number | 00 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Extreme Length..... | 2 | 2 1/4 | 2 3/4 | 3 1/4 | 3 7/8 | 4 1/2 | 5 1/8 | 5 7/8 | 6 5/8 |
| Standard Length, Shank.... | 1/2 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1 1/8 | 1 1/4 | 1 1/2 |
| Maximum Length, Shank.... | 11/16 | 3/4 | 1 | 1 1/8 | 1 1/4 | 1 1/2 | 1 7/8 | 2 | 2 1/8 |
| Diameter, Shank..... | 5/16 | 11/32 | 13/32 | 15/32 | 15/32 | 17/32 | 19/32 | 11/16 | 3/4 |
| LIST PRICE..... | \$.21 | \$.21 | \$.23 | \$.29 | \$.36 | \$.46 | \$.57 | \$.69 | \$.84 |

CONE PATTERN



| Number | 11 | 13 | 15 | 16 |
|----------------------------|--------|--------|--------|--------|
| Extreme Length..... | 3 1/2 | 4 1/2 | 5 1/2 | 6 |
| Standard Length, Shank.... | 1/2 | 3/4 | 7/8 | 1 1/8 |
| Maximum Length, Shank.... | 11/16 | 1 1/8 | 1 3/8 | 1 1/2 |
| Diameter, Shank..... | 3/8 | 7/16 | 1/2 | 9/16 |
| LIST PRICE..... | \$.29 | \$.46 | \$.57 | \$.69 |

Weights, page M.

✦ REGISTERED TRADE MARK

WILLIAMS' "VULCAN"
DROP-FORGED BALANCE HANDLES



Unfinished are plain forgings without any hole in hub.

Broached have holes finished, but are otherwise plain forgings.

Finished are broached, ground, polished, case-hardened all over and lacquered to prevent rusting.

The broached openings are made with corners slightly rounded to prevent breakage and a slight clearance is provided.

Holes are regularly finished to standard sizes given below but each forging admits of broaching to the maximum dimensions stated in table. Smaller openings than standard and special sizes can be broached to order. Handles can also be supplied with round holes in hub; details on application.

| No. | Length | | | Hub | | Square Hole, Size Broached | | Ball, Diam. | LIST PRICE | | | No. |
|------|-------------------|----------|------------------|--------|--------|----------------------------|-------------------|-------------|-------------|-----------|-----------|------|
| | C Hub to C Handle | Ex-treme | Handle Above Arm | Diam. | Length | Stand-ard in Stock | Maxi-mum to Order | | Unfin-ished | Broach-ed | Fin-ished | |
| 512 | 1 1/4 | 3 5/16 | 1 15/16 | 7/8 | 3/4 | 7/16 | 1/2 | 7/8 | \$.79 | \$1.32 | \$2.30 | 512 |
| 516 | 1 5/8 | 4 | 2 1/4 | 7/8 | 7/8 | 7/16 | 1/2 | 1 1/4 | .87 | 1.40 | 2.45 | 516 |
| ‡520 | 2 | 5 | 2 5/8 | 1 | 15/16 | 1/2 | 5/8 | 1 1/4 | .96 | 1.49 | 2.65 | ‡520 |
| ‡522 | 2 1/4 | 5 1/2 | 2 3/4 | 1 1/4 | 1 | 1/2 | 13/16 | 1 3/8 | 1.05 | 1.58 | 2.90 | ‡522 |
| ‡525 | 2 1/2 | 6 | 2 13/16 | 1 1/4 | 1 1/8 | 5/8 | 13/16 | 1 7/16 | 1.23 | 1.85 | 3.30 | ‡525 |
| 529 | 2 7/8 | 7 | 3 5/16 | 1 1/4 | 1 1/4 | 5/8 | 13/16 | 1 1/2 | 1.50 | 2.10 | 3.85 | 529 |
| 434 | 3 3/8 | 8 | 3 7/16 | ‡1 1/2 | 7/8 | 5/8 | 3/4 | 1 3/4 | 2.10 | 2.70 | 4.90 | 434 |
| 439 | 3 7/8 | 9 | 3 1/2 | ‡1 5/8 | 1 1/16 | 5/8 | 3/4 | 1 3/4 | 2.65 | 3.25 | 5.90 | 439 |

‡ Handle cone-shaped; see Crank Handle cut on opposite page.

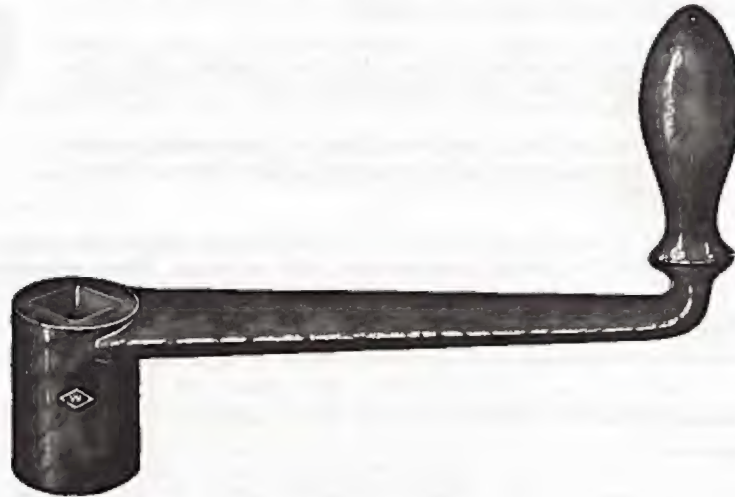
† Hub is a sphere, flattened on top and bottom; full size drawing on request.

† REGISTERED TRADE MARK

Weights, page M.

11-42

WILLIAMS' + "VULCAN"
DROP-FORGED CRANK HANDLES



Unfinished are plain forgings without hole in hub.

Broached have holes finished and hubs recessed or counter-bored in free end, but are otherwise plain forgings.

Finished are broached, counterbored in free end of hub, ground, polished, case-hardened all over and lacquered to prevent rusting.

The broached openings are made with corners slightly rounded to prevent breakage and a slight clearance is provided.

Holes are regularly finished to standard sizes given below, but each forging admits of broaching to the maximum dimensions stated. Smaller openings than standard and special sizes, running by sixteenths from 1/2 to 1 inch inclusive, and thence by eighths, can be broached to order at extra cost.

Hubs of Broached, or Finished can be cut to shorter lengths and Handles will be offset (see small cut) if desired, at an additional charge.



| No. | Length | | | Hub | | Square Hole Size Broached | | LIST PRICE | | | No. |
|-----|------------------|----------|------------------|--------|---------|---------------------------|------------------|-------------|----------|----------|-----|
| | Center to Center | Ex-treme | Handle above Arm | Diam. | Length | Standard in Stock | Maximum to Order | Unfin-ished | Broached | Finished | |
| 00 | 1 3/4 | 2 5/8 | 2 3/8 | 1 | 1 1/4 | 1/2 | 5/8 | \$.70 | \$1.22 | \$1.85 | 00 |
| 0 | 2 1/4 | 3 1/8 | 2 1/2 | 1 | 1 1/4 | 1/2 | 5/8 | .78 | 1.30 | 2.00 | 0 |
| 1 | 3 | 4 | 2 3/4 | 1 1/4 | 1 1/2 | 9/16 | 13/16 | .88 | 1.40 | 2.30 | 1 |
| 2 | 3 1/2 | 4 1/2 | 2 7/8 | 1 1/16 | 1 5/16 | 1/2 | 5/8 | .88 | 1.40 | 2.30 | 2 |
| 4 | 4 | 5 1/8 | 3 1/8 | 1 1/4 | 1 3/8 | 9/16 | 13/16 | 1.05 | 1.60 | 2.65 | 4 |
| 6 | 5 | 6 1/8 | 3 1/8 | 1 1/4 | 1 13/16 | 5/8 | 13/16 | 1.30 | 1.95 | 3.15 | 6 |
| 8 | 6 | 7 1/8 | 3 1/8 | 1 1/4 | 1 15/16 | 11/16 | 13/16 | 1.65 | 2.40 | 3.85 | 8 |
| 10 | 7 | 8 1/4 | 3 3/8 | 1 3/8 | 2 1/16 | 3/4 | 7/8 | 2.10 | 2.95 | 4.75 | 10 |
| 12 | 8 | 9 3/8 | 3 5/8 | 1 9/16 | 2 7/16 | 7/8 | 1 | 2.65 | 3.60 | 5.80 | 12 |
| 14 | 9 1/8 | 10 1/2 | 3 3/4 | 1 1/2 | 2 1/2 | 7/8 | 1 | 3.00 | 4.00 | 6.50 | 14 |
| 16 | 10 | 11 1/2 | 4 | 1 3/4 | 3 | 1 | 1 1/8 | 3.95 | 5.15 | 8.15 | 16 |

Weights, page M.

★ REGISTERED TRADE MARK

WILLIAMS' DROP-FORGED THUMB NUTS

BLANK OR TAPPED

These are drop-forged from a fine grade of steel that drills and taps readily; they are furnished either Blank or Tapped, tumbled smooth.

Nuts tapped U. S. Standard threads in stock. Other threads to order. Unless otherwise specified, orders for Tapped Nuts will be supplied with U. S. Standard threads.

Tapped Nuts have base faced at right angle to hole. Special sizes and shapes and Tobin Bronze Nuts to order.



Type A



Type B

When tapping is ordered, a commercial product is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made. When ordering indicate pattern (A or B) by letter.

Tapped Thumb Nuts will be furnished, unless otherwise specified.

| For Bolt, Size..... | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 9/16 | 5/8 | 3/4 |
|---|---------|-------|--------|--------|---------|-------|--------|--------|--------|-------|
| U. S. Std. (Natl. Course)—Threads Per Inch..... | 40 | 24 | 20 | 18 | 16 | 14 | 13 | 12 | 11 | 10 |
| Extreme Width across Wings | | | | | | | | | | |
| Type A..... | 3/4 | 15/16 | 1 1/8 | 1 7/16 | 1 11/16 | 2 | 2 1/4 | 2 9/16 | 2 3/4 | 3 1/4 |
| Type B..... | 25/32 | 1 | 1 3/16 | 1 3/8 | 1 5/8 | 1 7/8 | 2 1/16 | 2 3/8 | 2 9/16 | 3 |
| Diameter, Top of Barrel..... | 1/4 | 5/16 | 3/8 | 7/16 | 17/32 | 5/8 | 21/32 | 3/4 | 13/16 | 15/16 |
| LIST PRICE, per 100, | | | | | | | | | | |
| Blank..... | \$ 3.50 | 4.00 | 4.50 | 5.20 | 6.50 | 8.00 | 10.00 | 12.00 | 14.50 | 21.00 |
| Tapped U. S. Standard, unless otherwise specified.... | \$ 9.00 | 10.00 | 11.00 | 13.00 | 16.00 | 20.00 | 25.00 | 30.00 | 34.00 | 46.00 |

WILLIAMS' DROP-FORGED THUMB SCREWS

All Types Furnished Either Blank or Threaded



*Types E, F, and G
will be Discontinued
when present stock
is exhausted.

Drop-forged from a fine grade of steel that threads readily and tumbled smooth. Special sizes and shapes and Tobin Bronze Screws to order.

Type G is made in 1/4, 5/16 and 3/8 inch diameters in all regular lengths.

Dies for the following Screws have not yet been made, consequently these sizes are not now carried in stock; 7/16 inch diameter Type B, 9/16 inch diameter Types A, B, E and F, 5/8 inch diameter Types E and F, 3/4 inch diameter Types A, B, D, E and F.

(Continued on next page)

Weights, page M.

WILLIAMS' DROP-FORGED THUMB SCREWS

BLANK, OR THREADED

See illustrations on opposite page

Threaded Thumb Screws, except Types C and E, over 4 inches long have threads running up only 4 inches.

Lengths, longer than those listed, can be furnished specially from available dies; intermediate lengths take price of next longer length plus an extra charge for cutting. Electric Welding to order only.

Screws with U. S. Standard threads in stock. Whitworth Standard supplied at regular prices; other threading to order. Unless other threads are specified, Threaded Screws will be furnished with U. S. Standard threads.

Screws with special points can be supplied to order.

When ordering indicate pattern by letter.

When threading is ordered, a commercial product is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made.

Threaded Thumb Screws will be furnished, unless otherwise specified.

| Width of Head | Diameter Screw and U. S. Standard (Natl. Coarse) Threads per Inch | | | | | | | | | | Width of Head |
|---------------|---|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-----------|---------------|
| | 1/8 40 | 3/16 24 | 1/4 20 | 5/16 18 | 3/8 16 | 7/16 14 | 1/2 13 | 9/16 12 | 5/8 11 | 3/4 10 | |
| Type A | 3/4 | 15/16 | 1 1/8 | 1 7/16 | 1 11/16 | 2 | 2 1/4 | 2 3/4 | 2 3/4 | 3 1/4 | Type A |
| B | 25/32 | 1 | 1 3/16 | 1 3/8 | 1 5/8 | 2 1/16 | 2 1/16 | 2 9/16 | 2 9/16 | 3 1/4 | B |
| C-D | 19/32 | 27/32 | 1 | 1 3/16 | 1 3/8 | 1 9/16 | 1 3/4 | 1 7/8 | 2 1/16 | *2 1/4 | C-D |
| E-F | 5/8 | 7/8 | 1 1/16 | 1 1/4 | 1 3/8 | 1 9/16 | 1 3/4 | | | | E-F |
| * C | | | 31/32 | 1 | 1 1/4 | | | | | | G* |

*To be Discontinued when present stock is exhausted.

*Type C only; D not made.

BLANK, List Price per 100

| Length Under Head | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1 1/4 | 1 1/2 | 1 3/4 | 2 | 2 1/4 | 2 1/2 | 2 3/4 | 3 | 3 1/2 | 4 |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---|-------|-------|-------|---|-------|---|
| 1/4 | \$ 6.80 | \$ 7.40 | \$ 8.00 | \$ 9.00 | \$10.20 | | | | | | | | | | | | |
| 1/2 | 7.10 | 7.70 | 8.30 | 9.30 | 10.50 | \$12.00 | \$14.00 | \$18.00 | | | | | | | | | |
| 3/4 | 7.40 | 8.00 | 8.60 | 9.60 | 10.80 | 12.40 | 14.40 | 18.50 | | | | | | | | | |
| 1 | 7.70 | 8.30 | 8.90 | 9.90 | 11.10 | 12.80 | 14.80 | 19.10 | \$ 24.50 | \$40.00 | | | | | | | |
| 1 1/4 | 8.00 | 8.60 | 9.20 | 10.20 | 11.40 | 13.20 | 15.30 | 19.80 | 25.50 | 41.00 | | | | | | | |
| 1 1/2 | 8.30 | 8.90 | 9.50 | 10.60 | 11.80 | 13.70 | 15.80 | 20.60 | 26.60 | 42.10 | | | | | | | |
| 1 3/4 | | 9.20 | 9.80 | 11.00 | 12.20 | 14.20 | 16.40 | 21.50 | 27.80 | 43.40 | | | | | | | |
| 2 | | 9.60 | 10.20 | 11.40 | 12.60 | 14.70 | 17.00 | 22.50 | 29.10 | 44.90 | | | | | | | |
| 2 1/4 | | | 10.60 | 11.80 | 13.00 | 15.30 | 17.70 | 23.60 | 30.50 | 46.40 | | | | | | | |
| 2 1/2 | | | 11.00 | 12.20 | 13.40 | 15.90 | 18.40 | 24.80 | 32.00 | 48.40 | | | | | | | |
| 2 3/4 | | | 11.40 | 12.60 | 13.90 | 16.50 | 19.20 | 26.10 | 33.60 | 50.40 | | | | | | | |
| 3 | | | 11.80 | 13.00 | 14.40 | 17.20 | 20.20 | 27.50 | 35.30 | 52.70 | | | | | | | |
| 3 1/2 | | | | 13.80 | 15.40 | 18.60 | 22.60 | 30.30 | 38.90 | 57.50 | | | | | | | |
| 4 | | | | 14.60 | 16.50 | 20.40 | 25.60 | 34.00 | 44.00 | 63.60 | | | | | | | |

THREADED, List Price per 100

U. S. Standard Threads will be furnished, unless otherwise specified.

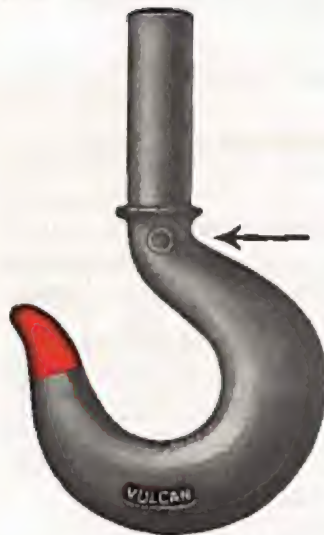
| Length Under Head | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1 1/4 | 1 1/2 | 1 3/4 | 2 | 2 1/4 | 2 1/2 | 2 3/4 | 3 | 3 1/2 | 4 |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|-------|---|-------|---|
| 1/4 | \$10.80 | \$11.40 | \$12.50 | \$14.00 | \$16.20 | | | | | | | | | | | | |
| 1/2 | 11.30 | 11.90 | 13.00 | 14.50 | 16.70 | \$19.20 | \$22.60 | \$29.50 | | | | | | | | | |
| 3/4 | 11.80 | 12.40 | 13.50 | 15.00 | 17.20 | 19.90 | 23.30 | 30.30 | | | | | | | | | |
| 1 | 12.40 | 13.00 | 14.10 | 15.60 | 17.80 | 20.70 | 24.10 | 31.30 | \$40.10 | \$62.00 | | | | | | | |
| 1 1/4 | 13.00 | 13.60 | 14.70 | 16.20 | 18.40 | 21.60 | 25.10 | 32.60 | 41.70 | 63.60 | | | | | | | |
| 1 1/2 | 13.70 | 14.30 | 15.40 | 17.00 | 19.20 | 22.70 | 26.20 | 34.00 | 43.40 | 65.40 | | | | | | | |
| 1 3/4 | | 15.00 | 16.10 | 17.90 | 20.10 | 23.80 | 27.50 | 35.60 | 45.20 | 67.50 | | | | | | | |
| 2 | | 15.90 | 17.00 | 18.80 | 21.00 | 24.90 | 28.80 | 37.30 | 47.30 | 69.90 | | | | | | | |
| 2 1/4 | | | 17.90 | 19.70 | 22.00 | 26.10 | 30.20 | 39.20 | 49.60 | 72.40 | | | | | | | |
| 2 1/2 | | | 18.80 | 20.60 | 23.00 | 27.30 | 31.60 | 41.20 | 52.00 | 75.60 | | | | | | | |
| 2 3/4 | | | 19.70 | 21.60 | 24.10 | 28.50 | 33.10 | 43.30 | 54.50 | 79.00 | | | | | | | |
| 3 | | | 20.60 | 22.60 | 25.20 | 29.80 | 34.80 | 45.50 | 57.20 | 82.70 | | | | | | | |
| 3 1/2 | | | | 24.80 | 27.40 | 32.60 | 38.90 | 50.10 | 63.10 | 90.70 | | | | | | | |
| 4 | | | | 26.70 | 30.00 | 36.00 | 44.10 | 56.00 | 71.00 | 100.40 | | | | | | | |

Weights, page M.

WILLIAMS' + "VULCAN"
DROP-FORGED HOIST HOOKS

The Hooks with the Orange Tip

SHANK PATTERN



Heat Treating. After forging, every "Vulcan" Hook is accurately heat-treated for maximum strength and toughness—the liability of breakage is reduced to the minimum.

Proof-Testing. To insure proper service at listed capacity every hook, after heat-treatment is proof-tested on a standard tension machine to *fifty per cent beyond* its rated "Safe Working Load." Each Hook so tested is stamped **O**, as illustrated, and hence can be readily identified as "proof-tested."

(Continued on following page)

† Shanks of Nos. 13, 14, 15, 15A, 16 and 16A can be made longer if desired at an additional charge of \$.55, .80, 1.05, 1.30, 1.40 and 1.75 (list price) per extra inch or fraction thereof, respectively.

‡ 15A and 16A Hooks are made from special alloy steel; others from carbon steel.

| No. | Shank | | Opening, or Throat | Extreme Dimensions | | Capacity Shanks Blank, Tons of 2000 lbs. | | | LIST PRICE | No. |
|------|---------------------------|--------|--------------------|--------------------|--------|--|-------------------------------|---|------------|------|
| | Diam., Nominal Rough Size | Length | | Length | Width | Safe Working Load | Average Load at Elastic Limit | Approximate Load Required to Straighten out | | |
| 2 | 1/2 | 2 | 1 | 5 | 2 7/8 | .5 | .9 | 1.9 | \$.32 | 2 |
| 3 | 9/16 | 2 1/4 | 1 1/16 | 5 1/2 | 3 1/8 | .6 | 1.2 | 2.3 | .37 | 3 |
| 4 | 5/8 | 2 1/2 | 1 1/8 | 6 | 3 1/2 | .7 | 1.5 | 3. | .44 | 4 |
| 5 | 3/4 | 2 3/4 | 1 1/4 | 6 3/4 | 3 7/8 | 1.2 | 2.5 | 5.7 | .58 | 5 |
| 6 | 7/8 | 3 | 1 3/8 | 7 1/2 | 4 3/8 | 1.7 | 3.5 | 7. | .85 | 6 |
| 7 | 1 | 3 1/4 | 1 1/2 | 8 1/4 | 4 7/8 | 2.1 | 4.2 | 8.5 | 1.25 | 7 |
| 8 | 1 1/8 | 3 1/2 | 1 3/4 | 9 1/4 | 5 5/8 | 2.5 | 5.4 | 10. | 1.80 | 8 |
| 9 | 1 1/4 | 3 3/4 | 1 7/8 | 10 1/4 | 6 3/8 | 3. | 6.2 | 13. | 2.45 | 9 |
| 10 | 1 3/8 | 4 | 2 1/10 | 11 | 6 7/8 | 4. | 8. | 17. | 3.20 | 10 |
| 11 | 1 1/2 | 4 1/4 | 2 1/4 | 12 | 7 1/2 | 4.7 | 9. | 19. | 4.10 | 11 |
| 12 | 1 5/8 | 4 1/2 | 2 1/2 | 13 | 8 1/4 | 5.5 | 11. | 26. | 5.60 | 12 |
| 13 | 1 3/4 | †5 | 3 | 14 1/2 | 9 1/4 | 6.8 | 13. | 32. | 7.80 | 13 |
| 14 | 2 | †5 1/2 | 3 3/8 | 16 | 11 | 8. | 17. | 35. | 12.00 | 14 |
| 15 | 2 3/8 | †6 | 4 | 17 7/8 | 13 1/2 | 11. | 21. | 48. | 23.00 | 15 |
| ‡15A | 2 3/8 | †6 | 4 | 17 7/8 | 13 1/2 | 15. | 25. | 55. | 39.00 | ‡15A |
| 16 | 2 3/4 | †7 | 4 1/2 | 21 1/2 | 15 | 20. | 40. | 80. | 60.00 | 16 |
| ‡16A | 2 3/4 | †7 | 4 1/2 | 21 1/2 | 15 | 25. | 50. | ..... | 70.00 | ‡16A |

Weights, page M.

† REGISTERED TRADE MARK

WILLIAMS' + "VULCAN" DROP-FORGED HOIST HOOKS

The Hooks with the Orange Tip

EYE PATTERN—WELDLESS

(Continued from preceding page)

Use the Hook with the orange tip—no other standard line offers such assurance of safety and care in manufacture.

For Safety Chains on railroad cars, a Hook, approximately No. 27 in size and with eye at right angle, can be furnished to order in reasonable quantities; see small illustration. Full size drawing on request.

Tobin Bronze Hooks from standard or special dies to order in quantities; prices on application.

‡36A Hook is made from special alloy steel: others from carbon steel.



| No. | Diameter of Eye | | Opening, or Throat | Extreme Dimensions | | Capacity, Tons of 2000 lbs. | | | LIST PRICE | No. |
|------|-----------------|---------|--------------------|--------------------|--------|-----------------------------|-------------------------------|---|------------|------|
| | Inside | Outside | | Length | Width | Safe Working Load | Average Load at Elastic Limit | Approximate Load Required to Straighten out | | |
| 22 | 3/4 | 1 1/2 | 1 | 4 3/8 | 2 7/8 | .5 | .9 | 1.9 | \$.36 | 22 |
| 23 | 7/8 | 1 3/4 | 1 1/16 | 4 7/8 | 3 1/8 | .6 | 1.2 | 2.3 | .43 | 23 |
| 24 | 1 | 2 | 1 1/8 | 5 3/8 | 3 1/2 | .7 | 1.5 | 3. | .53 | 24 |
| 25 | 1 1/8 | 2 1/4 | 1 1/4 | 6 3/16 | 3 7/8 | 1.2 | 2.5 | 5.7 | .73 | 25 |
| 26 | 1 1/4 | 2 1/2 | 1 3/8 | 6 7/8 | 4 3/8 | 1.7 | 3.5 | 7. | 1.05 | 26 |
| 27 | 1 3/8 | 2 3/4 | 1 1/2 | 7 5/8 | 4 7/8 | 2.1 | 4.2 | 8.5 | 1.50 | 27 |
| 28 | 1 1/2 | 3 | 1 3/4 | 8 9/16 | 5 5/8 | 2.5 | 5.4 | 10. | 2.10 | 28 |
| 29 | 1 5/8 | 3 1/4 | 1 7/8 | 9 9/16 | 6 3/8 | 3. | 6.2 | 13. | 2.85 | 29 |
| 30 | 1 3/4 | 3 1/2 | 2 1/16 | 10 3/8 | 6 7/8 | 4. | 8. | 17. | 3.70 | 30 |
| 31 | 2 | 4 | 2 1/4 | 11 1/2 | 7 1/2 | 4.7 | 9. | 19. | 4.70 | 31 |
| 32 | 2 3/8 | 4 5/8 | 2 1/2 | 13 | 8 1/4 | 5.5 | 11. | 26. | 6.40 | 32 |
| 33 | 2 3/4 | 5 1/4 | 3 | 14 3/4 | 9 1/4 | 6.8 | 13. | 32. | 9.40 | 33 |
| 34 | 3 1/8 | 6 1/8 | 3 3/8 | 16 3/4 | 11 | 8. | 17. | 35. | 18.50 | 34 |
| 35 | 3 1/2 | 7 | 4 | 19 1/8 | 13 1/2 | 11. | 21. | 48. | 35.00 | 35 |
| 36 | 4 | 8 1/2 | 4 1/2 | 22 3/4 | 15 | 20. | 40. | 80. | 86.00 | 36 |
| ‡36A | 4 | 8 1/2 | 4 1/2 | 22 3/4 | 15 | 25. | 50. | ..... | 100.00 | ‡36A |

Weights, page M.

+ REGISTERED TRADE MARK

WILLIAMS' + "VULCAN"
WELDLESS EYE BOLTS

PLAIN PATTERN

Blank or Threaded



These carbon steel Eye Bolts are specially heat-treated, after forging, to increase further their strength and toughness and reduce the liability of breakage.

To insure proper service at listed capacity, every "Vulcan" Eye Bolt, after heat-treatment, is proof tested on a standard tension machine before threading to *fifty per cent beyond* its "Safe Working Load."

Each Eye Bolt so tested is stamped **O** near its piece number, which appears in raised letters on the forging, and hence can be readily identified as "*proof-tested*."

U. S. Std. Threaded Eye Bolts of Standard length are in stock; threaded prices are for these with either U. S. or Whitworth Std. Threads; longer lengths and special threads extra.

Tobin Bronze Eye Bolts for marine work from standard or special dies to order in quantities; prices on request. Eye Bolts can be galvanized to order at extra cost. Prices given for special Eye Bolts on receipt of drawings, or models and specifications.

(Continued on following page)

When ordering, please state whether Blank or Threaded are desired; Blank (shank not threaded) will be supplied, unless otherwise specified.

| No. | Shank | | | Diameter Eye | | Capacity Blanks; Tons of 2000 lbs. | | LIST PRICE, Each | | | | | No. | | |
|-----|---|---|---|--------------|---------|---|---|--|------------------------|--|----------|--------|------|-----|----|
| | Diam.; Nom- inal Rough Size; Blank | Std. Length under Eye, Blank and Thd. | Max- imum Length in Stock; Blank | Inside | Outside | | | Blank | | | Threaded | | | | |
| | | | | | | Stand- ard Lgth. (A) | Extra for Lgth. up to Max. (B) | Extra per *Inch over Max. (C) | Stand- ard Lgth. | Extra per *Inch for Thd. only (D) | | | | | |
| 3 | 3/8 | 1 1/4 | 4 1/2 | 1 | 1 21/32 | .7 | 3. | \$.11 | \$.11 | \$.06 | \$.16 | \$.05 | 3 | | |
| 4 | 7/16 | 1 3/8 | 4 1/2 | 1 | 1 27/32 | 1. | 4. | .12 | .12 | .06 | .18 | .05 | 4 | | |
| 5 | 1/2 | 1 1/2 | 4 1/2 | 1 | 1 3/16 | 2 | 1/16 | .13 | .14 | .06 | .21 | .05 | 5 | | |
| 6 | 9/16 | 1 5/8 | 4 1/2 | 1 | 1 9/32 | 2 | 9/32 | 1.5 | 6. | .17 | .08 | .25 | .05 | 6 | |
| 7 | 5/8 | 1 3/4 | 4 1/2 | 1 | 1 3/8 | 2 | 1/2 | 2. | 8. | .22 | .22 | .10 | .32 | .06 | 7 |
| 8 | 3/4 | 2 | 5 | 1 | 1 1/2 | 2 | 13/16 | 3. | 12. | .30 | .24 | .12 | .42 | .06 | 8 |
| 9 | 7/8 | 2 1/4 | 5 | 1 | 1 11/16 | 3 | 1/4 | 3.5 | 16. | .40 | .26 | .14 | .55 | .06 | 9 |
| 10 | 1 | 2 1/2 | 5 | 1 | 1 13/16 | 3 | 9/16 | 4. | 20. | .55 | .30 | .17 | .74 | .07 | 10 |
| 11 | 1 1/8 | 2 3/4 | 5 | 2 | 4 | 5. | 23. | .80 | .35 | .20 | 1.04 | .08 | .11 | | |
| 12 | 1 1/4 | 3 | 6 | 2 | 2 3/16 | 4 | 7/16 | 7.5 | 33. | 1.15 | .50 | .23 | 1.45 | .10 | 12 |
| 14 | 1 1/2 | 3 1/2 | 6 | 2 | 1/2 | 5 | 3/16 | 9. | 42. | 2.00 | .65 | .33 | 2.50 | .14 | 14 |
| 15 | 1 3/4 | 3 3/4 | 6 | 2 | 7/8 | 6 | 1/16 | 11. | 53. | 3.00 | .80 | .48 | 3.75 | .20 | 15 |
| 16 | 2 | 4 | 6 | 3 | 1/4 | 6 | 7/8 | 13. | 68. | 4.25 | 1.00 | .65 | 5.30 | .27 | 16 |
| 17 | 2 1/2 | 5 | 6 | 4 | 8 9/16 | 16. | 85. | 7.00 | .75 | 1.00 | 8.80 | .36 | 17 | | |

Weights, page M.

† REGISTERED TRADE MARK

*Extra per inch, or fraction thereof.

11-42

WILLIAMS' + "VULCAN"
WELDLESS EYE BOLTS

SHOULDER PATTERN

Blank or Threaded

(Continued)

On standard length Threaded Eye Bolts of Shoulder Pattern the thread runs within 1/8" (No. 21) to 3/4" (No. 36) of shoulder, which is faced.

Prices for either Plain, or Shoulder Eye Bolts of "Extra Length" apply only to forgings which may be in stock at time ordered.

To determine List Price for Threaded Eye Bolts of other than standard length:—

1. Determine price of Blank (see A, B and C in table).
2. Add for threading (see D).
3. If quantity is less than 100 of same pattern and shank diameter, shorter or longer than standard, add \$2.00 NET for the lot to cover "set-up" charge.
4. Shorter lengths than standard take Standard Threaded List, plus "set-up" charge, if any.

Example:—50 No. 28—8" long, Threaded 3"

| | | |
|----------------------|-----|--------|
| Blank—Std. Length 2" | (A) | \$.30 |
| Extra to Max. 5" | (B) | .24 |
| Additional 3" @ 12c | (C) | .36 |
| Threading—3" @ 6c | (D) | .18 |

LIST PRICE, Each \$1.08

"Set-Up" NET charge, \$2.00 extra for the lot.



When ordering, please state whether Blank or Threaded are desired; Blank (shank not threaded) will be supplied, unless otherwise specified.

| No. | Shank | | | Eye, Diameter | | Capacity Blanks; Tons of 2000 lbs. | | LIST PRICE, Each | | | | | No. |
|-----|--|--|--|---------------|---------|---|---|--|-----------------------------------|--|----------|--------|-----|
| | Diam.; Nominal Rough Size; Blank | Std. Lgth. under Shldr. Blank and Thd. | Max- imum Lgth. in Stock; Blank | Inside | Outside | | | Blank | | | Threaded | | |
| | | | | | | Stand- ard Lgth. (A) | Extra for Lgth. up to Max. (B) | Extra per *Inch over Max. (C) | Stand- ard Lgth. (D) | Extra per *Inch for Thd. only (D) | | | |
| | | | | | | | | | | | | | |
| 21 | 1/4 | 1 | 3 | 3/4 | 1 3/16 | .2 | 1.5 | \$.09 | \$.09 | \$.06 | \$.14 | \$.05 | 21 |
| 22 | 5/16 | 1 1/8 | 4 | 7/8 | 1 7/16 | .4 | 2. | .10 | .10 | .08 | .15 | .05 | 22 |
| 23 | 3/8 | 1 1/4 | 4 1/2 | 1 | 1 21/32 | .7 | 3. | .11 | .11 | .06 | .16 | .05 | 23 |
| 24 | 7/16 | 1 3/8 | 4 1/2 | 1 3/32 | 1 27/32 | 1. | 4. | .12 | .12 | .06 | .18 | .05 | 24 |
| 25 | 1/2 | 1 1/2 | 4 1/2 | 1 3/16 | 2 1/16 | 1.3 | 5. | .14 | .14 | .06 | .21 | .05 | 25 |
| 26 | 9/16 | 1 5/8 | 4 1/2 | 1 9/32 | 2 9/32 | 1.5 | 6. | .17 | .17 | .08 | .25 | .05 | 26 |
| 27 | 5/8 | 1 3/4 | 4 1/2 | 1 3/8 | 2 1/2 | 2. | 8. | .22 | .22 | .10 | .32 | .06 | 27 |
| 28 | 3/4 | 2 | 5 | 1 1/2 | 2 13/16 | 3. | 12. | .30 | .24 | .12 | .42 | .06 | 28 |
| 29 | 7/8 | 2 1/4 | 5 | 1 11/16 | 3 1/4 | 3.5 | 16. | .40 | .26 | .14 | .55 | .06 | 29 |
| 30 | 1 | 2 1/2 | 5 | 1 13/16 | 3 9/16 | 4. | 20. | .55 | .30 | .17 | .74 | .07 | 30 |
| 31 | 1 1/8 | 2 3/4 | 5 | 2 | 4 | 5. | 23. | .80 | .35 | .20 | 1.04 | .08 | 31 |
| 32 | 1 1/4 | 3 | 6 | 2 3/16 | 4 7/16 | 7.5 | 33. | 1.15 | .50 | .23 | 1.45 | .10 | 32 |
| 34 | 1 1/2 | 3 1/2 | 6 | 2 1/2 | 5 3/16 | 9. | 42. | 2.00 | .65 | .33 | 2.50 | .14 | 34 |
| 35 | 1 3/4 | 3 3/4 | 6 | 2 7/8 | 6 1/16 | 11. | 53. | 3.00 | .80 | .48 | 3.75 | .20 | 35 |
| 36 | 2 | 4 | 6 | 3 1/4 | 6 7/8 | 13. | 68. | 4.25 | 1.00 | .65 | 5.30 | .27 | 36 |

Weights, page M.

★ REGISTERED TRADE MARK

*Extra per inch, or fraction thereof.

WILLIAMS' MISCELLANEOUS EYE BOLTS

CARBON STEEL—WELDLESS



Type A



B 17, 25, 30, 35



Type B

These are furnished in two styles or types, A and B, and are carried in stock with shanks blank (not threaded), but will be supplied threaded to order at extra charge.

Full size drawings will be sent on request.

| Type | No. | Shank | | Diameter Eye | | LIST PRICE, Blank | No. | Type |
|------|-----|----------|--------|--------------|---------|-------------------|-----|------|
| | | Diameter | Length | Inside | Outside | | | |
| A | 1 | 1/4 | * 3/4 | 3/8 | 3/4 | \$.07 | 1 | A |
| | 10 | 3/8 | 3 | 3/4 | 1 3/8 | .12 | 10 | A |
| | 12 | 3/8 | 3 | 3/8 | 1 | .12 | 12 | A |
| A | 11 | 7/16 | 2 3/16 | 1 7/32 | 2 7/32 | .30 | 11 | A |
| | 13 | 7/16 | 2 3/4 | 5/8 | 1 3/8 | .14 | 13 | A |
| | 14 | 15/32 | 1 5/8 | 1/2 | 1 1/4 | .11 | 14 | A |
| A | 15 | 1/2 | 2 | 9/16 | 1 1/4 | .11 | 15 | A |
| | 16 | 1/2 | 3/4 | 1 3/8 | 2 3/8 | .26 | 16 | A |
| | 17 | 1/2 | 4 | 1 | 1 3/4 | .17 | 17 | A |
| A | 20 | 9/16 | 2 | 5/8 | 1 1/2 | .14 | 20 | A |
| | 25 | 5/8 | 1 3/4 | 7/8 | 1 5/8 | .14 | 25 | A |
| | 26 | 5/8 | *1 3/4 | 1 1/8 | 2 | .20 | 26 | A |
| A | 40 | 13/16 | 3 1/4 | 3/4 | 2 1/8 | .35 | 40 | A |
| | 55 | 1 | 1 5/16 | 7/8 | 2 3/8 | .35 | 55 | A |
| | 58 | 1 1/16 | 4 1/8 | 1 1/8 | 2 7/8 | .65 | 58 | A |
| B | 1 | 1/4 | 1/2 | 3/8 | 3/4 | .05 | 1 | B |
| | 4 | 5/16 | 3 | 5/16 | 15/16 | .12 | 4 | B |
| | 5 | 3/8 | 6 | 1/2 | 1 1/8 | .25 | 5 | B |
| B | 10 | 7/16 | 1 1/8 | 1 | 1 3/4 | .11 | 10 | B |
| | 15 | 1/2 | *1 1/2 | 13/16 | 1 13/16 | .14 | 15 | B |
| | 16 | 1/2 | 3 1/4 | 7/16 | 1 7/16 | .15 | 16 | B |
| B | 17 | †1/2 | 1 3/4 | 1/2 | 1 1/8 | .10 | 17 | B |
| | 25 | †5/8 | 2 3/8 | 1/2 | 1 1/4 | .12 | 25 | B |
| | 26 | 5/8 | 2 3/4 | 11/16 | 1 11/16 | .15 | 26 | B |
| B | 27 | 5/8 | 3/4 | 1 1/2 | 2 1/2 | .26 | 27 | B |
| | 30 | †11/16 | 2 1/2 | 9/16 | 1 7/16 | .14 | 30 | B |
| | 35 | †3/4 | 2 3/4 | 5/8 | 1 5/8 | .16 | 35 | B |
| B | 45 | 7/8 | 4 1/8 | 1 1/8 | 2 3/8 | .35 | 45 | B |
| | 50 | 15/16 | *5 | 1 1/8 | 2 3/8 | .55 | 50 | B |
| | 55 | 1 | 2 3/4 | 3/4 | 2 | .30 | 55 | B |

† Shanks of B 17, 25, 30 and 35 are 7/16, 1/2, 9/16 and 5/8 inch in diameter for 3/4, 1, 1 and 1 1/8 inch from end respectively, as illustrated above.

* Also carried in stock in the following maximum lengths at list prices shown:—No. A-1, 3", \$.16; No. A-26, 4 1/2", \$.42; No. B-15, 4 1/2", \$.28; No. B-50, 8", \$.85.

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WILLIAMS' DROP-FORGED ROD ENDS

UNFINISHED



These Rod or Stub Ends are drop-forged from mild steel which welds easily.

Dimensions show sizes of unfinished forgings. Prices will be given for special forms on receipt of models or drawings and specifications stating quantity required.

| No. | Shank | | Head | | LIST PRICE | | No. |
|--------|----------|----------------------------|----------|-----------|--------------------------------|-------------------|--------|
| | Diameter | Standard Length under Head | Diameter | Thickness | Extra Length per inch, or less | Standard Rod Ends | |
| 0B | 3/16 | 4 13/16 | 3/8 | 1/4 | | \$.17 | 0B |
| 1B | 1/4 | 2 11/16 | 9/16 | 1/2 | | .16 | 1B |
| 1C | 1/4 | *5 | 5/8 | 1/4 | \$.03 | .18 | 1C |
| 1D | 1/4 | *2 3/8 | 7/16 | 1/4 | | .12 | 1D |
| 1 1/2A | 9/32 | *5 | 11/16 | 9/32 | .03 | .28 | 1 1/2A |
| 2A | 5/16 | *3 3/4 | 3/4 | 7/16 | .03 | .19 | 2A |
| 2B | 5/16 | 3 1/8 | 3/4 | 5/16 | | .09 | 2B |
| 2C | 5/16 | 5 3/4 | 3/4 | 3/8 | | .17 | 2C |
| 2D | 5/16 | 1 1/4 | 13/16 | 3/8 | | .16 | 2D |
| 3A | 3/8 | *2 | 1 | 3/8 | .03 | .10 | 3A |
| 3B | 3/8 | *3 3/8 | 21/32 | 3/4 | .04 | .36 | 3B |
| 3C | 3/8 | *3 1/2 | 13/16 | 3/8 | .04 | .10 | 3C |
| 3D | 3/8 | *3 1/2 | 9/16 | 9/16 | .04 | .19 | 3D |
| 3E | 3/8 | 3 1/8 | 5/8 | 5/8 | | .18 | 3E |
| 3F | 3/8 | 1 1/8 | 3/4 | 3/8 | | .08 | 3F |
| 3G | 3/8 | 1 7/16 | 5/8 | 3/8 | | .09 | 3G |
| 3H | 3/8 | 1 5/8 | 3/4 | 3/8 | | .10 | 3H |
| 3J | 3/8 | 3 1/16 | 7/8 | 3/8 | | .14 | 3J |
| 4B | 7/16 | *4 1/2 | 15/16 | 5/8 | .04 | .19 | 4B |
| 4C | 7/16 | *3 3/8 | 13/16 | 3/4 | .04 | .31 | 4C |
| 4D | 7/16 | *2 1/2 | 5/8 | 1/2 | .04 | .21 | 4D |
| 4E | 7/16 | 1 3/4 | 13/16 | 5/16 | | .19 | 4E |
| 5A | 1/2 | *4 3/8 | 1 | 1/2 | .06 | .17 | 5A |
| 5B | 1/2 | 2 3/8 | 3/4 | 3/4 | | .21 | 5B |
| 5C | 1/2 | 3 1/16 | 7/8 | 7/16 | | .14 | 5C |
| 5D | 1/2 | *2 7/8 | 3/4 | 13/16 | .06 | .19 | 5D |
| 5E | 1/2 | *2 1/8 | 1 1/16 | 9/16 | .06 | .12 | 5E |
| 5F | 1/2 | 2 1/16 | 13/16 | 11/32 | | .14 | 5F |
| 5G | 1/2 | *12 | 1 | 7/16 | .06 | .72 | 5G |
| 6A | 9/16 | 2 | 1 1/16 | 7/16 | | .13 | 6A |
| 6B | 9/16 | 1 | 7/8 | 11/16 | | .31 | 6B |
| 6C | 9/16 | 2 3/8 | 16/16 | 3/8 | | .27 | 6C |
| 6 1/2A | 5/8 | *4 5/16 | 7/8 | 5/16 | | .36 | 6 1/2A |
| 7A | 5/8 | *2 3/8 | 1 1/8 | 15/32 | .08 | .16 | 7A |
| 7B | 5/8 | *4 7/8 | 1 1/4 | 19/32 | .08 | .28 | 7B |
| 7C | 5/8 | 1 1/2 | 1 3/4 | 5/8 | | .35 | 7C |
| 7D | 5/8 | *7 1/2 | 1 5/32 | 21/32 | .08 | .52 | 7D |
| 7E | 5/8 | *5 7/8 | 1 1/8 | 1 1/16 | .08 | .44 | 7E |
| 7F | 5/8 | *4 1/2 | 1 7/16 | 11/16 | .08 | .43 | 7F |
| 7G | 5/8 | 2 5/16 | 1 | 7/16 | | .30 | 7G |
| 7H | 5/8 | 3 | 1 1/16 | 7/16 | | .26 | 7H |
| 9A | 3/4 | *3 7/8 | 1 3/4 | 5/8 | .08 | .46 | 9A |
| 9B | 3/4 | *4 | 1 1/2 | 13/16 | .08 | .37 | 9B |
| 9C | 3/4 | *4 3/8 | 1 1/8 | 3/4 | .08 | .37 | 9C |
| 9D | 3/4 | 3 7/8 | 1 1/8 | 1/2 | | .24 | 9D |
| 11A | 7/8 | *3 1/2 | 1 1/2 | 1 1/16 | .10 | .46 | 11A |
| 11B | 7/8 | *4 | 2 | 15/16 | .10 | .64 | 11B |
| 11C | 7/8 | 4 3/4 | 1 7/16 | 5/8 | | .37 | 11C |
| 11D | 7/8 | 4 3/4 | 1 1/8 | 1 5/32 | | .55 | 11D |
| 13A | 1 | *6 | 2 16/16 | 1 1/4 | .12 | 1.50 | 13A |
| 13B | 1 | *3 1/2 | 1 5/8 | 1 1/2 | .12 | .72 | 13B |
| 13C | 1 | *3 1/2 | 1 15/32 | 1 1/8 | .12 | .63 | 13C |
| 14A | 1 1/16 | *5 3/4 | 2 1/16 | 1 1/8 | .12 | .60 | 14A |
| 15A | 1 1/8 | *5 | 1 13/16 | 1 1/8 | .14 | .92 | 15A |
| 15B | 1 1/8 | *6 | 2 1/4 | 1 1/4 | .14 | 1.51 | 15B |
| 17A | 1 1/4 | *6 | 2 5/16 | 1 1/2 | .16 | 1.60 | 17A |
| 19A | 1 3/8 | *7 1/4 | 2 3/8 | 1 1/2 | .18 | 1.72 | 19A |

* Can be furnished longer if desired.

† Head off-set from center of shank 3/64 inch.

‡ Hole in head, 1 1/4 inch diameter.

1 Largest Diameter Head, 1 inch.





2 Largest Diameter Head, 1 1/8 inch.

3 Largest Diameter Head, 1 9/16 inch.

**+“SUPERIOR”
DROP-FORGED WRENCHES
(Carbon Steel)**

**For
WHITWORTH STANDARD AND METRIC MEASURE
NUMERICALLY ARRANGED**

*Furnished from stock until supply is exhausted; thereafter on special order only.

| No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m | No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m | No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m |
|-----------------------|---|---------------------------------|-------------------------|--|---------------------------------|-----------------------|---|---------------------------------|
| See Pages 2 & 3 |  | | See Page 3 Cont'd |  | | See Pages 4 & 5 |  | |
| MS000 | | 5 | M 9T | | 38 | W27 | 5/16 & 3/8 | |
| MS000T | | 6 | W 9 | 7/8 | | M28 | | 16 & 18 |
| M00T | | 7 | M10 | | 40 | M28T | | 17 & 19 |
| M00 | | 8 | *M10V | | 41 | W28 | 5/16 & 7/16 | |
| W00 | 1/8 | | M10T | | 42 | M29T | | 18 & 19 |
| M0T | | 9 | W10 | 1 | | M29 | | 18 & 20 |
| M0 | | 10 | M11 | | 45 | W29 | 3/8 & 7/16 | |
| W0 | 3/16 | | W11 | 1 1/8 | | M30 | | 19 & 21 |
| M1T | | 11 | M12 | | 50 | W30 | 3/8 & 1/2 | |
| M1 | | 12 | W12 | 1 1/4 | | M31 | | 20 & 22 |
| W1 | 1/4 | | W13 | 1 3/8 | | M31T | | 21 & 23 |
| M2T | | 13 | W14 | 1 1/2 | | W31 | 7/16 & 1/2 | |
| M2 | | 14 | *W15 | 1 5/8 | | M32T | | 22 & 24 |
| M2U | | 15 | *W16 | 1 3/4 | | M32 | | 22 & 25 |
| W2 | 5/16 | | *W16A | 1 7/8 | | M32U | | 23 & 25 |
| M3 | | 16 | *W17 | 2 | | W32 | 7/16 & 9/16 | |
| M3U | | 17 | *W18 | 2 1/4 | | W33 | 1/2 & 9/16 | |
| M3T | | 18 | *W19 | 2 1/2 | | M34 | | 23 & 27 |
| W3 | 3/8 | | *W20 | 3 | | M34T | | 24 & 26 |
| M4T | | 19 | | | | M34U | | 25 & 27 |
| M4 | | 20 | See Page 4 |  | | W34 | 1/2 & 5/8 | |
| W4 | 7/16 | | | | | M35 | | 25 & 28 |
| M5T | | 21 | | | | M34V | | 26 & 28 |
| M5 | | 22 | | | | M35T | | 26 & 29 |
| W5 | 1/2 | | M21 | | 6 & 8 | W35 | 9/16 & 5/8 | |
| M6T | | 23 | M21T | | 7 & 9 | M36T | | 27 & 29 |
| M6U | | 24 | M21U | | 8 & 10 | M36 | | 28 & 30 |
| M6 | | 25 | W21 | 1/8 & 3/16 | | M36U | | 29 & 32 |
| W6 | 9/16 | | M22 | | 9 & 11 | W36 | 9/16 & 3/4 | |
| M7T | | 26 | W22 | 1/8 & 1/4 | | M37 | | 30 & 32 |
| M7U | | 27 | M23 | | 10 & 12 | W37 | 5/8 & 3/4 | |
| M7 | | 28 | M23T | | 11 & 13 | W38 | 5/8 & 7/8 | |
| W7 | 5/8 | | W23 | 3/16 & 1/4 | | M39 | | 32 & 35 |
| M8U | | 29 | W24 | 3/16 & 5/16 | | W39 | 3/4 & 7/8 | |
| M8 | | 30 | M25T | | 12 & 13 | M40 | | 33 & 30 |
| M8T | | 32 | M25 | | 12 & 14 | W40 | 3/4 & 1 | |
| *M8X | | 33 | M25U | | 13 & 15 | M41 | | 38 & 40 |
| W8 | 3/4 | | W25 | 1/4 & 5/16 | | M41T | | 38 & 42 |
| M9U | | 34 | W26 | 1/4 & 3/8 | | W41 | 7/8 & 1 | |
| M9 | | 35 | M27 | | 14 & 16 | W42 | 7/8 & 1 1/8 | |
| M9V | | 36 | M27T | | 15 & 16 | M43 | | 42 & 45 |
| | | | M27U | | 15 & 17 | | | |

+“SUPERIOR”

WHITWORTH STANDARD AND METRIC MEASURE







*Furnished from stock until supply is exhausted; thereafter on special order only.

★ REGISTERED TRADE MARK

**+“SUPERIOR”
DROP-FORGED WRENCHES
(Carbon Steel)**

**For
WHITWORTH STANDARD AND METRIC MEASURE
NUMERICALLY ARRANGED**

*Furnished from stock until supply is exhausted; thereafter on special order only.

| No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m | No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m | No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m | | | |
|---------------|---|---------------------------------|---|---|---------------------------------|--|---|---------------------------------|---|--|--|
| See Page 7 |  | | See Page 12 |  | | See Page 14 Cont'd |  | | | | |
| M623 | | 10 & 12 | *W661B | 1/8 & 1/4 | | *W763B | 7/16 & 9/16 | | | | |
| M623T | | 12 & 14 | W661C | 3/16 & 1/4 | | W763C | 1/2 & 9/16 | | | | |
| M623U | | 13 & 15 | *W662A | 3/16 & 5/16 | | W764A | 1/2 & 5/8 | | | | |
| W623 | 3/16 & 1/4 | | *W662B | 1/4 & 5/16 | | W764B | 9/16 & 5/8 | | | | |
| W624 | 3/16 & 5/16 | | *W662C | 1/4 & 3/8 | | W764C | 9/16 & 3/4 | | | | |
| W625 | 1/4 & 5/16 | | W663A | 5/16 & 3/8 | | W765A | 5/8 & 3/4 | | | | |
| M626 | | 14 & 16 | W663B | 5/16 & 7/16 | | W765B | 5/8 & 7/8 | | | | |
| M626T | | 16 & 18 | W663C | 3/8 & 7/16 | | W765C | 3/4 & 7/8 | | | | |
| W626 | 1/4 & 3/8 | | W664A | 3/8 & 1/2 | | See Page 8 |  | | | | |
| W627 | 5/16 & 3/8 | | W664B | 7/16 & 1/2 | | | | | | | |
| W628 | 5/16 & 7/16 | | W664C | 7/16 & 9/16 | | *W801 W802 W803 W804 W805 W806 W807 W808 W809 W810 1 | 1/4 5/16 3/8 7/16 1/2 9/16 5/8 3/4 7/8 | | | | |
| M629 | ..... | 18 & 20 | *W665A | 1/2 & 9/16 | | | | | | | |
| W629 | 3/8 & 7/16 | | W665B | 1/2 & 5/8 | | | | | | | |
| M628T | ..... | 19 & 21 | W665C | 9/16 & 5/8 | | | | | | | |
| M630 | ..... | 20 & 22 | *W666A | 9/16 & 3/4 | | | | | | | |
| M630T | ..... | 21 & 23 | W666B | 5/8 & 3/4 | | | | | | | |
| M630U | ..... | 22 & 25 | *W666C | 5/8 & 7/8 | | | | | | | |
| W630 | 3/8 & 1/2 | | W667A | 3/4 & 7/8 | | | | | | | |
| W631 | 7/16 & 1/2 | | *W667B | 3/4 & 1 | | | | | | | |
| W632 | 7/16 & 9/16 | | *W667C | 7/8 & 1 | | | | | | | |
| *W633 | 1/2 & 9/16 | | *W668A | 7/8 & 1 1/8 | | See Page 19 |  | | | | |
| M634 | | 23 & 27 | See Page 14  | | | | | | | | |
| M634T | ..... | 24 & 26 | | | | | | | | | |
| W634 | 1/2 & 5/8 | | W760A | 1/8 & 1/4 | | | | | W901 *W902 W903 *W904 W905 W906 W907 W908 W909 W910 *W910A *W911 W912 | 1/4 5/16 3/8 7/16 1/2 9/16 5/8 3/4 7/8 1 1 1/8 1 1/8 1 1/4 | |
| M635T | ..... | 26 & 29 | W760B | 3/16 & 1/4 | | | | | | | |
| M635 | ..... | 28 & 30 | W760C | 3/16 & 5/16 | | | | | | | |
| W635 | 9/16 & 5/8 | | W761A | 1/4 & 5/16 | | | | | | | |
| *W636 | 9/16 & 3/4 | | W761B | 1/4 & 3/8 | | | | | | | |
| W637 | 5/8 & 3/4 | | W761C | 5/16 & 3/8 | | | | | | | |
| W639 | 3/4 & 7/8 | | W762A | 5/16 & 7/16 | | | | | | | |
| | | | W762B | 3/8 & 7/16 | | | | | | | |
| | | | W762C | 3/8 & 1/2 | | | | | | | |
| | | | W763A | 7/16 & 1/2 | | | | | | | |

+“SUPERIOR” and “SUPERRENCH”+
(Carbon Steel) (Chrome-Moly.)



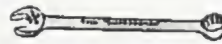






DROP-FORGED WRENCHES

For

WHITWORTH STANDARD AND METRIC MEASURE

NUMERICALLY ARRANGED

*Furnished from stock until supply is exhausted; thereafter on special order only.

| No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m | No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m | No. | Whitworth Std. Nuts; Size Bolts | Metric Open- ings; m/m |
|----------------|---|---------------------------------|--------------------------|---|---------------------------------|---------------------------------|---|---------------------------------|
| See Page 24 |  | | See Page 32 Cont'd |  | | See Page 41 |  | |
| | | | | | | Whitworth sizes on application. | | |
| *W961A | 1/8 | | W1030 | 3/8 & 1/2 | | See Page 35 |  | |
| W963A | 3/16 | | M1031 | ..... | 20 & 22 | | | |
| W964A | 1/4 | | *M1031T | ..... | 21 & 23 | | | |
| W965A | 5/16 | | W1031 | 7/16 & 1/2 | | | | |
| W967A | 3/8 | | M1032 | ..... | 22 & 25 | | | |
| W968A | 7/16 | | *W1032 | 7/16 & 9/16 | | *W1203 | 3/8 | |
| W969A | 1/2 | | M1033 | ..... | 24 & 26 | *W1205 | 1/2 | |
| *W970A | 9/16 | | W1033 | 1/2 & 9/16 | | *W1207 | 5/8 | |
| W971A | 5/8 | | *M1034 | ..... | 23 & 27 | *W1208 | 3/4 | |
| W973A | 3/4 | | W1034 | 1/2 & 5/8 | | *W1209 | 7/8 | |
| W975A | 7/8 | | M1035 | ..... | 25 & 28 | *W1210 | 1 | |
| W976A | 1 | | *W1035 | 9/16 & 5/8 | | | | |
| *W977A | 1 1/8 | | *M1036 | ..... | 28 & 30 | See Page 35 |  | |
| *W978A | 1 1/4 | | *W1036 | 9/16 & 3/4 | | | | |
| *W979A | 1 3/8 | | *M1037 | ..... | 30 & 32 | | | |
| *W980A | 1 1/2 | | W1037 | 5/8 & 3/4 | | | | |
| See Page 32 |  | | See Page 34 |  | | *W1903 | 3/8 | |
| M1021 | ..... | 6 & 8 | W1075 | 3/16 & 1/4 | | *W1905 | 1/2 | |
| W1021 | 1/8 & 3/16 | | *W1077A | 3/16 & 5/16 | | *W1907 | 5/8 | |
| W1022 | 1/8 & 1/4 | | *W1077D | 1/4 & 5/16 | | *W1908 | 3/4 | |
| *M1021T | ..... | 8 & 10 | *W1079F | 1/4 & 3/8 | | *W1909 | 7/8 | |
| M1023 | ..... | 10 & 12 | *W1079D | 5/16 & 3/8 | | *W1910 | 1 | |
| W1023 | 3/16 & 1/4 | | *W1079G | 5/16 & 7/16 | | See Page 38 |  | |
| *W1024 | 3/16 & 5/16 | | *W1081F | 3/8 & 7/16 | | Whitworth sizes on application. | | |
| *M1025T | ..... | 12 & 13 | W1081G | 3/8 & 1/2 | | See Page 39 |  | |
| M1025 | ..... | 12 & 14 | *W1083E | 7/16 & 1/2 | | | | |
| W1025 | 1/4 & 5/16 | | *W1083F | 7/16 & 9/16 | | W8029 | 3/8 & 7/16 | |
| *W1026 | 1/4 & 3/8 | | *W1083G | 1/2 & 9/16 | | W8033C | 1/2 & 9/16 | |
| M1027 | ..... | 14 & 16 | *W1083C | 1/2 & 5/8 | | W8723 | 1/8 & 3/16 | |
| *M1027T | ..... | 15 & 16 | *W1085D | 9/16 & 5/8 | | W8727 | 1/4 & 5/16 | |
| W1027 | 5/16 & 3/8 | | *W1085E | 9/16 & 3/4 | | | | |
| M1028 | ..... | 16 & 18 | *W1085C | 5/8 & 3/4 | | | | |
| W1028 | 5/16 & 7/16 | | | | | | | |
| *M1029T | ..... | 18 & 19 | | | | | | |
| M1029 | ..... | 18 & 20 | | | | | | |
| W1029 | 3/8 & 7/16 | | | | | | | |

† REGISTERED TRADE MARK

DROP-FORGINGS TO ORDER

Drop-forgings are used in vast quantities for a wide variety of mechanical purposes. They are made of steel, bronze, copper, iron and many other metals.

Their quality depends upon the material and the care and skill used in their manufacture. Our Chemical Laboratory checks all material as received; our Physical Laboratory tests forgings while in process and upon completion; our skill has been developed by half-a-century's experience in producing our standard stock tools and innumerable special designs to order.

MATERIAL

The material usually employed in making drop-forgings is bar steel. By carrying thousands of tons of assorted grades, shapes and sizes, many orders for drop-forgings can be completed without waiting to obtain the material. This is often a great convenience to our customers, particularly in the case of new dies, where the correct size of metal required cannot always be definitely determined until the tools are completed and tried.

DIES

Our facilities for sinking drop-forging dies, from the smallest, weighing only a few pounds, to massive blocks of several tons weight each, are unexcelled. Charges, when made for the use of dies, include but a portion of their cost and do not convey the right of removal from our works. We assume the risk and expense of their breakage and maintenance; the customer controls their use, as we will not make forgings from them without his written authority.

ESTIMATES

Dies are made to conform to a drawing; they usually differ from the finished part by the addition of the stock for removal in finishing and by the necessary draft, or taper, to permit drawing the forgings from them. Draft is seldom less than seven degrees—frequently it is more. Before sinking dies, we always submit to the customer for approval, a blue print showing the addition of the stock to be removed in finishing and the draft, with such other modifications as may be necessary.

When estimates are desired, therefore, send us a model, or drawing, of the part and state whether it shows "forging size" or "finished size," the quantity of forgings wanted and the material of which they are to be made. If the model, or drawings shows "finished size," tell us what surfaces are to be finished. We usually add at least 1/32 inch on each surface to be machined. On large forgings we add 1/16 to 1/8 inch; on small pieces, requiring only grinding or polishing, 1/100 inch is allowed.

The price of drop-forgings is largely affected by the quantity made with one setting of the tools; it costs as much to set dies for 100 as for 1000 pieces, and the forging work is also more costly per unit in small lots. Prices for drop-forgings vary with the nature of the work, the material used, the heat treatment if any, and the quantity taken at one time.

DROP-FORGINGS TO ORDER



These illustrations show general views of our Physical and Chemical Laboratories, and the Die Sinking Department.

DROP-FORGINGS TO ORDER EQUIPMENT

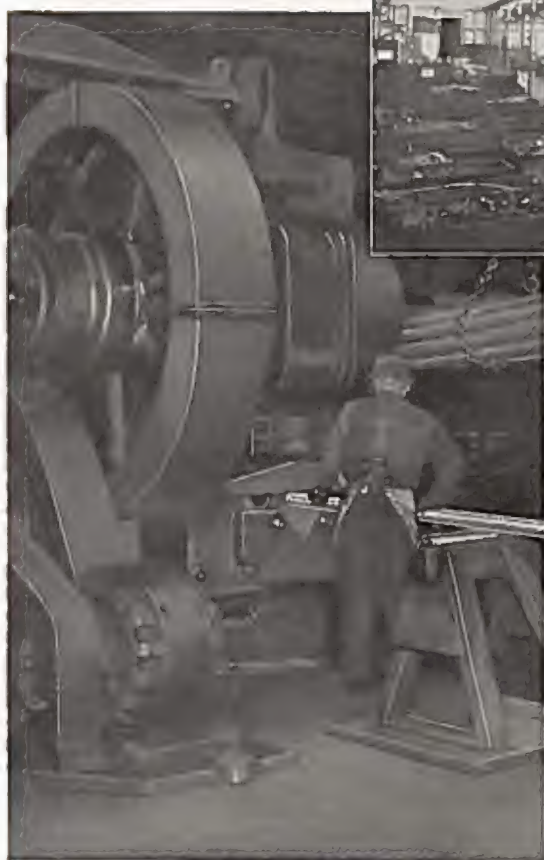
Our forging equipment consists of Board Drops from 400 to 4,000 lbs., Steam Drops from 2,500 to 8,000 lbs., Steam Hammers, Trip Hammers, Upsetting Machines (sometimes called "Headers"),

(Continued on next page)



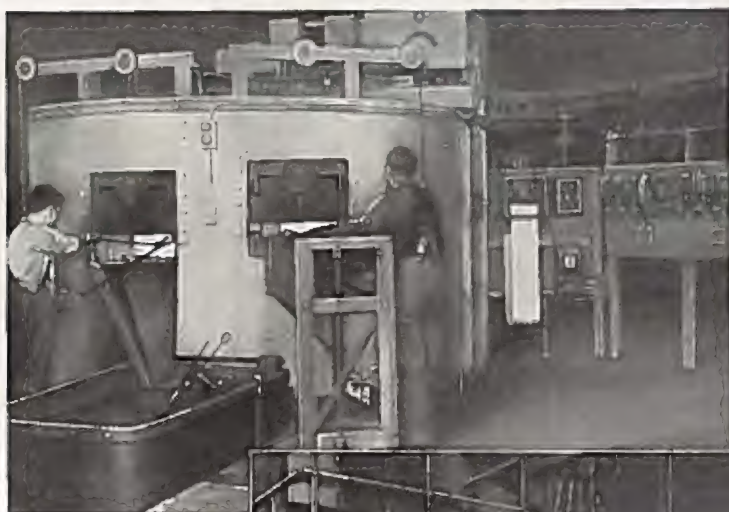
DROP-FORGINGS TO ORDER
EQUIPMENT (Continued)

Coining Presses, Hydraulic Presses, Electric Welding Machines, Rolls, Shears, Cold Sawing Machines, Shot-blasting Machines, Pickling Machines, etc., etc.



DROP-FORGINGS TO ORDER
HEAT TREATMENT

Our Heat-treating facilities are modern and complete. We have electric furnaces, both rotary with automatic temperature control, conveyor type with controlled atmosphere, and Homo electric furnaces and oil-fired furnaces of large capacity, all equipped with recording pyrometers. Methods and processes are all specified and controlled by our Metallurgical Department.



11-42

INSPECTION

All of our products are carefully inspected by experienced men in our Inspection Department where the most modern types of testing equipment are used to insure none but forgings correct to specifications leaving our plant.



GUARANTEE

We guarantee all forgings to be free from imperfections of workmanship and material. We will gladly replace, without charge, any which prove defective, but we cannot allow claims for labor, or damages.

SUPERIOR
DROP-FORGINGS TO ORDER

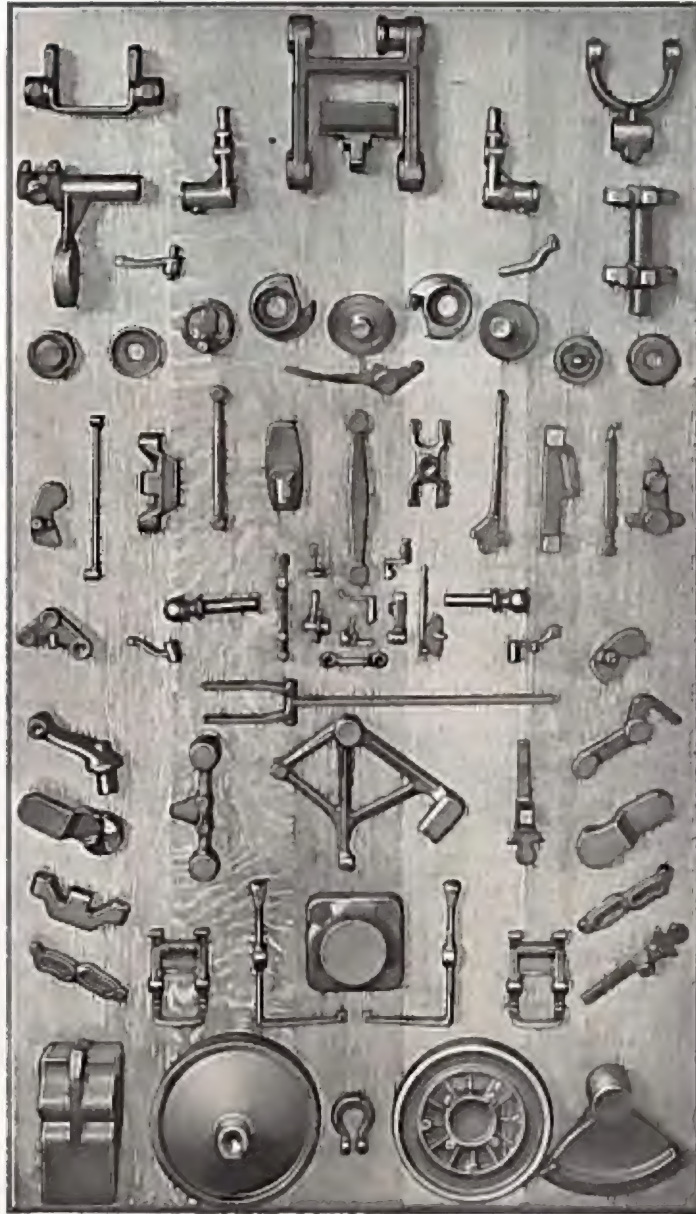
Illustrations of Drop-forgings made to order; not for sale from stock



11-42

DROP-FORGINGS TO ORDER

Illustrations of Drop-forgings made to order; not for sale from stock



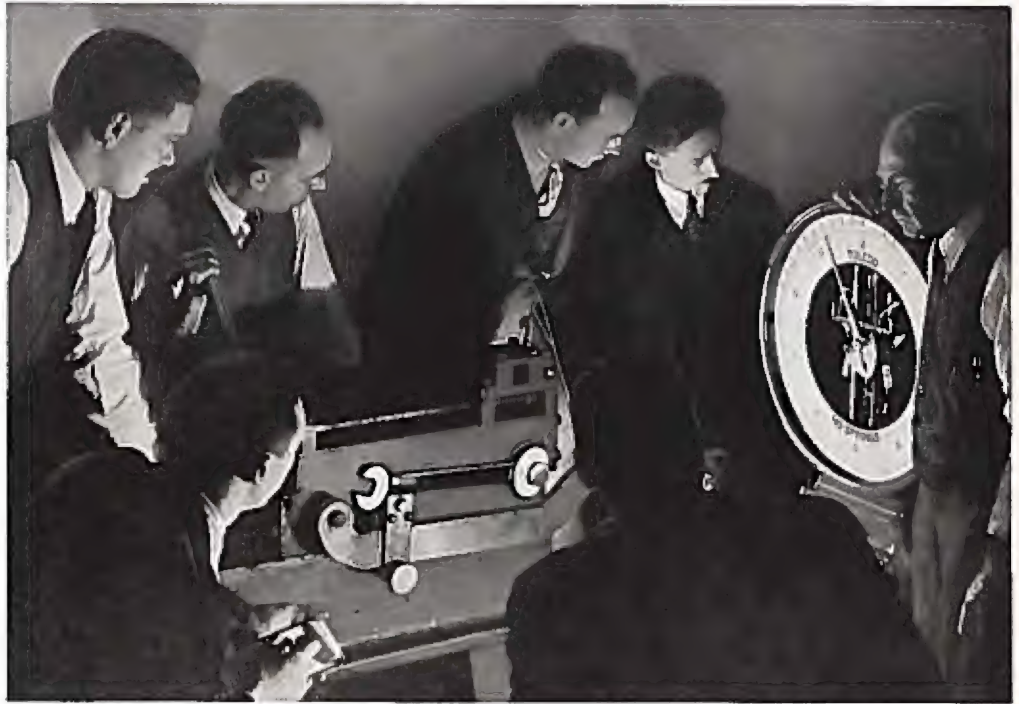
HOW AND WHY

WILLIAMS' TOOLS AID WAR PRODUCTION

WILLIAMS' "SUPERIOR" (CARBON STEEL) WRENCHES

For some years previous to the war, the popular trend was toward replacement of this type of wrench with alloy steel tools which usually were chrome-plated and more highly finished. Today, however, material shortages and the need for critical economy makes a close examination of the relative merits of carbon and alloy steel wrenches particularly timely. Since we manufacture *both* types, we can present the following facts and figures without bias or prejudice.

Williams' "Superior" Wrenches are forged from carbon steel, specially processed to exacting specifications. These wrenches have been improved to a point where they are substantially twice as strong as the earlier carbon steel wrenches of our own manufacture. Comparative tests demonstrate that they average (throughout all patterns and sizes) 93% as strong as our corresponding alloy steel wrenches. In the popular Double-Head Engineers' pattern,



Comparative strength tests were made in Williams' Laboratory with every size and type in the carbon and alloy steel wrench lines.

"Superior" (carbon steel) Wrenches are *actually stronger* than the corresponding sizes of alloy wrenches which are of thinner design. Other patterns in the Williams' line are forged from identical dies whether of carbon or alloy steel—thus the *average* shows a slight strength advantage in favor of alloy steel.

Against this slight advantage are the following practical considerations: Alloy steel wrenches cost nearly twice as much as "Superiors"; critical alloys are needed in many items of war production where substitution is highly undesirable; in the Double Head Engineers' pattern, the thicker design of "Superior" Wrenches affords a more comfortable hand grip and a better bearing on the nut; the usual finish supplied on "Superior" Wrenches involves no critical material (such as chrome), since they are finished in baked-on enamel rather than plating.

Economize with Carbon Steel Wrenches

In view of today's conditions, we strongly recommend the use of "Superior" (carbon steel) Wrenches wherever possible. For most industrial applications, any advantage in alloy wrenches is negligible. Some types of close-quarters work require the thinner heads available in the Double-Head Engineers' pattern of alloy wrenches, thus justifying their higher cost.

An informative booklet, providing comprehensive data on standard wrench types is available without charge. Write for "How to Select and Use Wrenches."



Comparison of Double-Head Engineers' Pattern of Alloy (top) and Carbon Steel wrenches. Both wrenches have same openings.

Sold by Leading Industrial Distributors Everywhere . . . J. H. Williams & Co., Buffalo, N. Y.

WILLIAMS

SUPERIOR DROP-FORGED TOOLS

Headquarters
for over half a century for
DROP-FORGINGS and DROP-FORGED TOOLS

TOOL HOLDERS



"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS
SCREWS



HOIST HOOKS



EYE BOLTS



HOW AND WHY

WILLIAMS' TOOLS AID WAR PRODUCTION

DATA ON WILLIAMS' BORING TOOLS

For those lathe operations involving boring and internal threading, Williams' Tools incorporate certain features which tend to conserve man-hours, improve output, and to reduce the number of rejects, particularly with semi-skilled and inexperienced operators.



Sleeve Bar

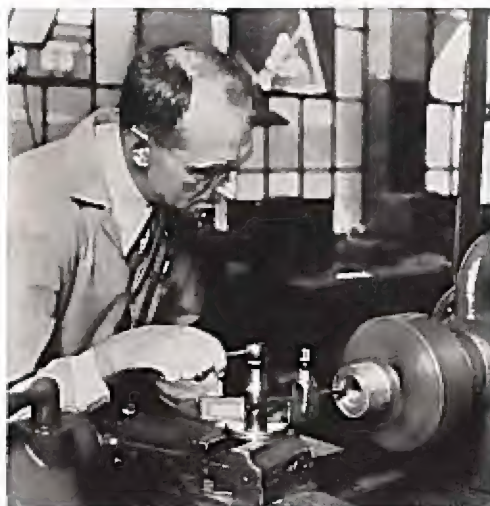
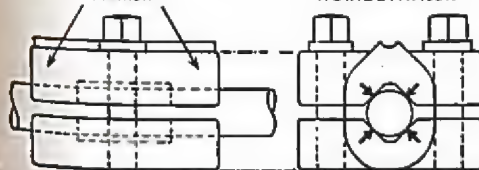
Plain Bar

Williams' Series 80 Boring-Tool Holder

Williams' Boring-Tool Holders (80 series) are designed so that each holder will accommodate several sizes of bars and so that commercial forms of bar steel are adaptable for either bars or cutters without machining. Adjusting sleeves or bushings are not used with this holder so there are no loose parts to become misplaced or lost. The "V" Block clamping arrangement, sketched below, grips even undersize or out-of-round bars firmly at four points, thus preventing tool chatter.

BEARINGS AT EXTREME ENDS OF CLAMP BLOCK GRIP OUT-OF-TRUE BARS FIRMLY.

EQUALIZING GRIP. BAR CANNOT MOVE VERTICALLY OR HORIZONTALLY.



Simplicity of design and sufficient stability to assure freedom from tool chatter are essential features in Tool-Holders for war production.

The Sleeve Bar regularly furnished accommodates either a straight or angle cutter in the one head, so there is no extra head to be misplaced while the other is in use. A Plain Bar, as illustrated above, can also be supplied if specified. Series 80 Holders are made in 5 sizes covering bar diameters from 3/16" to 1-1/8".



Williams' Light Boring-Tool Holder

For tool room use and all small work—including turning, as well as boring and threading—Williams' Light Boring Tool Holder incorporates certain distinctive features. In boring and internal threading

operations each holder will take several sizes of bars. Easy, rapid adjustment is assured with the knurled adjustment screw. When used as a Turning Tool Holder the offset shank makes it reversible for right and left hand work. This Holder is made in 3 sizes accommodating bars from 1/8" to 7/16" in diameter.

Williams' Adjustable Boring-Tool Post

The Williams' Adjustable Boring-Tool Post, with its long range center adjustment, is designed to accommodate many sizes of bars on various types of lathes. Easy, quick, vertical adjustment is accomplished by first selecting the proper bar recess in the slotted collar and then rotating the knurled ring which raises or lowers the bar to the correct height. Tightening the set screw in the head of the post tightens the whole device instantly, giving an extremely rigid tool. For all phases of boring and internal threading this vertical adjustment permits proper centering rapidly and assures perfect performance. The "V" block bar clamping construction grips the bar at four points which eliminates vertical or horizontal movement, thus preventing chattering. Made in 4 sizes for bars 1/2" to 2-1/4" diameter.



WILLIAMS

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TOOL HOLDERS



"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS



HOIST HOOKS



EYE BOLTS



VICES



WILLIAMS' TOOLS AID WAR PRODUCTION

DATA ON "VULCAN" CHAIN PIPE TONGS

There are 6 types of Williams' Tongs, each offering certain advantages for particular classes of work. A knowledge of the features of these various types will enable users to better select the most efficient and economical type for the work at hand.



"VULCAN SUPERIOR": A universal service tong for both pipe and fittings. Has Reversible pipe-and-fittings jaw. Seven sizes, up to 12" capacity.



"VULCAN": The original "VULCAN" Pipe Tong—still the favorite oil-field tongs for general work. Chain swings from center and can be used on either side of the jaw. Eight sizes, up to 18" capacity.



"VULCAN SUPERTONG": Same design as "VULCAN" but forged from alloy and high-tensile steel. Provides 50% greater strength than "VULCAN" with no increase in bulk or weight. Eight sizes, up to 18" capacity.



"IMPROVED VULCAN": Same as "VULCAN" except jaws are double-ended and reversible, providing double service life. Seven sizes, up to 12" capacity.



The "V" recess in "Vulcan Superior" jaws assures quick, positive grip on fittings.

Types of "Vulcan" Chains

While "VULCAN SUPERIOR" and "VULCAN" Tongs are furnished with either Flat Link or Cable Chain, all other types have Flat Link Chain only.

There are three types of Flat Link Chains for Williams' Tongs—"STANDARD", "XTRA-STRONG" and "SUPERCHAIN". "Standard" Chains are regularly furnished with all except "Supertongs" but "Xtra-Strong" Chains, providing approximately 40% greater strength, can be supplied at additional cost. "VULCAN SUPERTONGS" are regularly furnished with "Superchains". Every "VULCAN" Chain, regardless of type, is individually *proof-tested* on a standard tension machine to two-thirds of its breaking strain.

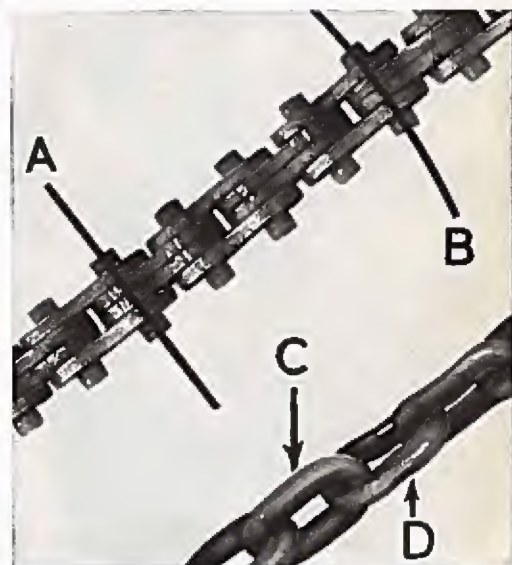
Use and Care of Tongs

In using Chain Pipe Tongs the best gripping position is that which is midway of

the jaw teeth, or rearward therefrom. The bending of the tong handle under load is not evidence of a defect. Such bending is intended to act as a warning and "safety valve" in advance of breakage of chain, which would incapacitate the tool.

In Flat Link Chains on tongs, an occasional inspection of the first two or three rivets and links adjacent to the swinging, or anchor link should be made, since the load is greatest at that point. Badly bowed, or curved rivets indicate that the chain has been loaded almost to breaking strength and is probably unsafe.

In Cable Link Chains, the links give warning by stretching and pulling "rigid" if the breaking point is approached.



- A. Straight rivet indicates chain is safe.
- B. Curved or bowed rivet—unsafe.
- C. Safe link indicated by normal shape.
- D. Link stretched or pulled "rigid"—unsafe.

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TOOL HOLDERS



"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS
SCREWS



HOIST HOOKS



EYE BOLTS





WILLIAMS' TOOLS AID WAR PRODUCTION

WILLIAMS' "SUPERSOCKET" WRENCHES

Since *socket wrenches*, today, play an important part in the servicing as well as manufacture of mechanized war equipment, a general knowledge of standardized types is desirable. Williams' "Supersocket" Wrenches include 5 separate and distinct patterns of *standard drive sockets*, each with its full assortment of handles and parts. A brief description of each pattern follows, together with information on the type of service for which it is designed.

Midget Pattern

1/4" Square Drive.
Openings, 3/16" to 7/16"



12-point



Hex



Square

Slim, straight wall sockets for electrical and all delicate adjustments. Ideal for magnetos, timers, generators, wiring connections, radios, carburetors, etc.

Bantam Pattern

3/8" Square Drive.
Openings, 1/4" to 3/4"



12-point Extra Deep



12-point Regular



6-point Extra Deep



12-point Universal

Light, but strong, straight wall sockets with thin walls for use in close quarters. Universal sockets are fitted with spring tension to maintain desired operating angle. Recommended for aviation and general service.



Standard Pattern

1/2" Square Drive.
Openings, 7/16" to 1-1/4"



12-point Regular



12-point Extra Deep



Square Regular

The 12-point sockets in this pattern have straight, thin walls. Those with square openings are the Taper Nose type. Extra Deep sockets have cross hole for use with a bar. Recommended for industrial and general service.

TYPICAL HANDLES & PARTS

(Standard Pattern Illustrated)



S10 & S13: Speeder Handles
S110P & S11SP: Extensions
S30: Ratchet Handle
S37: Torque "Measur wrench"

S51: Reversible Ratchet Handle
S40, S41 & S42: Flex Handles
S20A: Sliding T Handle
S1130: Adapter, S140: Univ. Joint

Heavy Duty Pattern

3/4" Square Drive.
Openings, 7/8" to 2-1/4"



12-point Regular



12-point Extra Deep

Designed for harder service where more strength is required than on the "everyday" job, this pattern provides ample strength without clumsy bulk.

Extra Heavy Duty Pattern

1" Square Drive.
Openings, 1-1/16" to 2-3/4"

Ruggedly designed for the toughest kind of service. Sockets are all cross-drilled to receive sliding handle, which minimizes tendency of socket to "tip" under extreme leverage. "Lock-Socket" device eliminates danger of sockets being detached in service. Ideal for all extremely heavy work including tanks and other mechanical field equipment.



12-point Regular

General Characteristics

Speed and Safety are inherent socket wrench advantages. "Supersockets", with their innumerable combinations of handles, accessories and drive adapters, provide an extremely flexible wrench system that is speeding war production and the servicing of fighting equipment for land, sea and air.

Williams' "Supersockets" are sold singly and in complete Sets. Write for booklet, "How to Select and Use Wrenches."

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TOOL HOLDERS



"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS



HOIST HOOKS



EYE BOLTS



VICES

WILLIAMS' TOOLS AID WAR PRODUCTION

DATA ON "VULCAN" LATHE DOGS

Lathe Dogs provide a simple and flexible means of driving shaft and other between-centers work on engine and semi-automatic lathes. Their universal use makes them an important metal-turning accessory and makes a knowledge of available standard types desirable at this time.

Williams' "Vulcan" Lathe and Milling Machine Dogs cover a wide range of shop, tool-room and manufacturing requirements. All are drop-forged from a strong, tough grade of carefully selected steel. Screws are of special steel, hardened and tempered, and are threaded U. S. Standard with the exception of those above 1" diameter which have eight threads to the inch. Both "Safety" and "Non-Safety" types, as illustrated, are available and interchangeable. Safety screws (& wrench) are furnished unless otherwise specified.



"Vulcan" Lathe Dogs
with Bent Tail and one Screw



Nos. 1 to 13 inclusive, 3/8" to 5" capacity

**"Vulcan" Heavy Service
Lathe Dogs**
with Bent Tail and two Screws



Safety for the operator is an important feature of this "Vulcan" Dog equipped with a square recess "safety" screw. There are no sharp projections to injure the operator's hands or catch his clothing.



"Vulcan" Clamp Lathe Dogs



The case-hardened nuts with which the Screws of this clamp are equipped, provide a ready means of arrangement for the minimum projection of screws beyond the body of dog and thus lessen danger to the operator when tool is in use. Nos. 61 to 64 inclusive, 1 3/8" to 3 1/4" capacity

"Vulcan" Milling Machine Dogs
with Flat Bent Tail and one Screw



Designed for taper work carried between centers on milling machines, the flat tail works in the head-slot without the backlash unavoidable in Dogs with taper tail. Serves also as a heavy pattern lathe dog. Heads are of sufficient size to permit re-tapping for larger size screws, as the threads wear. Non-safety screws only are furnished with "Vulcan" Milling Machine Dogs. They are threaded U. S. Standard and made of a special grade of steel, hardened and tempered.

Nos. 42 to 48 inclusive, 1/2" to 2" capacity

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TOOL HOLDERS



"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



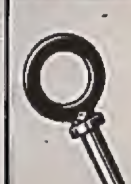
THUMB NUTS
SCREWS



HOIST HOOKS



EYE BOLTS



VICES

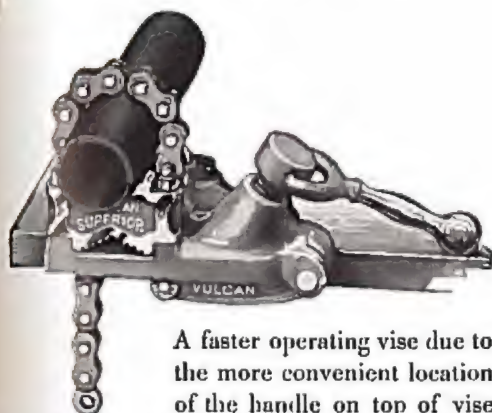
HOW AND WHY

WILLIAMS' TOOLS AID WAR PRODUCTION

DATA ON "VULCAN" CHAIN PIPE VISES

● Williams' "Vulcan" Chain Pipe Vises are available in two basic types: "Vulcan Superior", with adjusting handle on top, and "Vulcan", of conventional design with handle below. In addition, the "Vulcan" Clamp Kit Vise provides a portable tool which may be quickly attached to bench, truck platform, post or other support on the job. Williams' line also includes the "Vulcan" Vise Stand—a complete unit combining Vise, Stand and Pipe Bender. A description of the construction and utility features of these Vises is given here to facilitate selection of the most efficient type for any specific service.

"VULCAN SUPERIOR"



A faster operating vise due to the more convenient location of the handle on top of vise and above the bench. This vise also has reversible jaws, which double the service life of the tool. It has 1/2" larger capacity than other chain vise of corresponding size. Made entirely of tough wrought steel with drop-forged base, jaws, handle and chain arm. Two sizes, for pipe 1/8" to 4 1/2".



The convenient location of "Vulcan Superior's" handle, "above the bench," is a great timesaver.

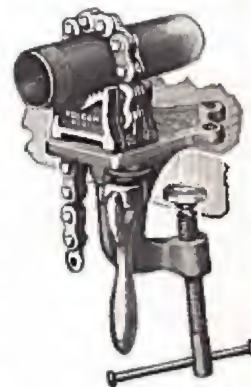
"VULCAN"



The original chain pipe vise and a favorite with pipe workers for more than thirty years. A light, compact, positive-gripping tool suitable for a wide variety of pipe work. Made entirely of wrought steel the same as "Vulcan Superior". Available in four sizes, for pipe 1/8" to 8".

"VULCAN" CLAMP KIT VISES

Extreme portability is a feature of this vise which weighs only 5-3/4 lbs. Can be carried to job in tool kit and quickly secured to bench, truck platform, post or other support without use of bolts or screws. The efficient clamping device is integral with the malleable iron base. The drop-forged jaws, nut and handle, and the chain are interchangeable with similar parts of "Vulcan" Vise, No. 1. Made in one size only, for pipe 1/8" to 2".



"VULCAN" VISE STANDS



A 3-in-1 unit combining Vise, Stand and Pipe Bender. The high-grade malleable iron base, designed for severe service, is equipped with oil can recess, tool slots, and rear pipe support. The Pipe Bender handles pipe up to 3/4". For easy carrying, legs fold and secure with tie chain. Vise parts are interchangeable with "Vulcan" No. 1. Made in one size only, for pipe 1/8" to 2".

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TOOL HOLDERS



"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS SCREWS



HOIST HOOKS



EYE BOLTS



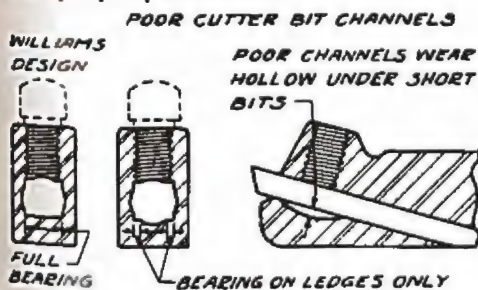
HOW AND WHY

WILLIAMS' TOOLS AID WAR PRODUCTION

DATA ON WILLIAMS' TURNING-TOOLS

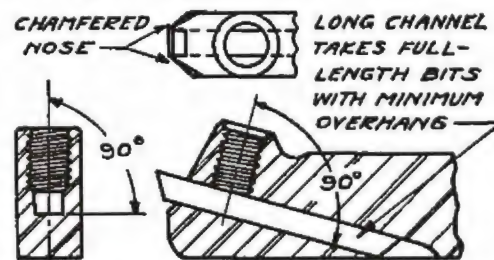
Since metal turning constitutes a major operation in our war production program, consideration of available tools for this purpose is timely. The Tool Holder system offers definite advantages over solid, forged tools for lathe, planer, shaper, etc. Greater convenience, efficiency and economy result with the use of properly designed Tool Holders, which save practically all waste of costly high speed steel, eliminate all dead stock of heavy forged tools, do away with all blacksmith labor and much grinding, and reduce lost man and machine hours waiting for tools substantially to zero.

Tool Holders, however, to satisfactorily replace solid forged tools, must be engineered to withstand the severe treatment which modern metal turning imposes on the cutting tool. Williams' Holders are drop-forged from a specially selected grade of steel, treated and hardened to develop maximum resistance to all wear and insure a hard rigid seat for the cutter directly under the holding or locking device. This tends to prevent cutter breakage which is due largely to the recess or pocket formed by short bits being forced into the cutter seat of the holder when the shank has not been properly hardened.



The bottom face of the shank of all Williams' Holders is rechecked after heat treating to insure a flat, square surface for the holder to rest on.

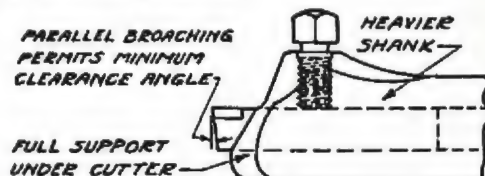
In Williams' Turning Tool Holders the nose is chamfered to permit convenient use in close quarters where space is limited. Set Screws are located at exact right angles to the cutter bit channel to provide full contact of the point of the screw with the cutter bit and insure maximum holding power. Screws and tapped holes are held to the close fits essential for long life under gruelling tool holder service.



Sketches above illustrate a straight shank Williams' Turning Tool Holder. Note that the extremely long cutter bit channel extends thru the bottom face of the shank, providing maximum entry for the cutter bit. This feature assures minimum overhang when a full-length bit is used, thus reducing the danger of cutter bit breakage.

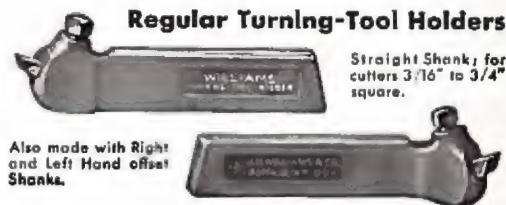
Carbide Turning-Tool Holders

Since tungsten carbide cutters approach a diamond in hardness (88-92 Rockwell A), the brittle nature of this material makes it absolutely essential that the cutter bit be held rigid and the cutting edge supported as much as possible.

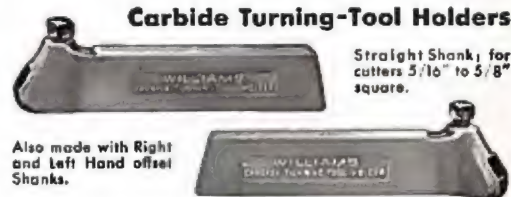


To provide a rigid tool and assure maximum support of the cutter, the shanks of Williams' Carbide Holders are made heavier and longer than regular Turning-Tool Holders of equal cutter capacity. The cutter channel is broached parallel with the base of the shank rather than at the usual 15° angle. The parallel broaching of the cutter slot permits proper grinding of the cutter so as to give maximum support to the cutting edge.

Regular Turning-Tool Holders



Carbide Turning-Tool Holders



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TOOL HOLDERS



"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS



HOIST HOOKS



SCREWS



VISES



HOW AND WHY

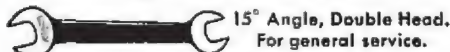
WILLIAMS' TOOLS AID WAR PRODUCTION

DATA ON WILLIAMS' "SUPERIOR" WRENCHES

● Since Williams' "Superior" (Carbon Steel) Wrenches provide exceptional strength with minimum use of critical materials, a review of standard available types is timely. "Superior" Wrenches are approximately twice as strong as earlier carbon steel wrenches of our manufacture. Comparative tests demonstrate that they average (throughout all patterns and sizes) 93% as strong as our corresponding alloy steel "Superwrenches", which we feel are among the strongest wrenches ever manufactured commercially.

A description of the most generally used "Superior" wrench types follows. More detailed information is contained in Williams' Wrench Booklet, No. A-81, which will be mailed for the asking.

Engineers' Pattern



15° Angle, Double Head.
For general service.
Size range, 5/16" to 5-3/8" openings.
Also single head style, 3/16" to 7-5/8".

Check Nut or "Thin" Pattern



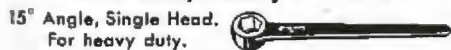
15° Angle, Double Head.
For Check, Jam or Lock Nuts, etc.
Size range, 13/32" to 1-1/2" openings.
Also single head style, 7/16" to 1-11/16".

Hex-Box, Regular Pattern



15° Angle, Single Head.
For general service.
Size range, 13/32" to 4-5/8" opening.
Larger sizes, from 3-3/8" to 4-5/8" opening, are also furnished with *striking face* on end of shorter handle.

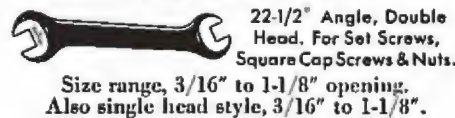
Hex-Box, Heavy Pattern



15° Angle, Single Head.
For heavy duty.
Size range, 1-1/4" to 3-1/8" opening.
Also made with *striking face* on end of shorter handle throughout full size range.

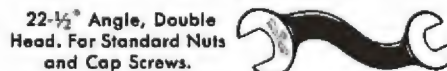


Set Screw Pattern



22-1/2° Angle, Double Head. For Set Screws, Square Cap Screws & Nuts.
Size range, 3/16" to 1-1/8" opening.
Also single head style, 3/16" to 1-1/8".

"5" Pattern



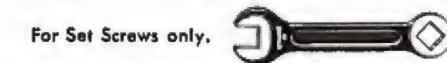
22-1/2° Angle, Double Head. For Standard Nuts and Cap Screws.
Size range, 5/16" to 2" opening.

Machine Pattern



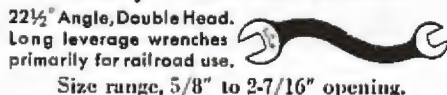
Straight Opening. Dbl. Hd.
Extra heavy for Planers, Milling Machines, Lathes, Drill Presses, etc.
Size range, 3/8" to 1-7/16" opening.

Tool Post Pattern



For Set Screws only.
For Nuts and Set Screws.
Nos. 554 to 557, for set screw sizes (both ends) 7/16" to 3/4".
Nos. 562B to 568D, openings 5/8" to 2".
Same opening both ends.

Heavy "5" or Car Pattern



22-1/2° Angle, Double Head.
Long leverage wrenches primarily for railroad use.
Size range, 5/8" to 2-7/16" opening.

Construction Pattern



15° Angle. Straight handle. Deep opening for square nuts, and tapered handle for lining-up bolt holes.
Size range, 7/16" to 2" opening.

Structural Pattern



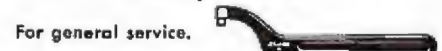
Straight opening. Offset handle. Deep opening for square nuts, tapered handle for lining-up bolt holes.
Size range, 7/16" to 2" opening.

Face Spanners



For general service.
Size range, 1" to 4" C to C of pins, in 1/4" multiples. Also Adjustable Face Spanners in 3 sizes with 2, 3 and 4" capacities.

Pin Spanners



For general service.
Size range, for circle diameters 1" to 6".

Hook Spanners



For Taper Nose Lathes Spindles and general service.
Size range, for circle diameters, 7-3/8", 9-1/4" and 12-1/2". Also Adjustable Hook Spanners in 3 sizes for circle diameters ranging from 3/4" to 4-3/4".

Pin Handle Sockets



With Hex or Square Opening for general service.
Size range:
Hex openings 5/16" to 2-3/8".
Square openings, 1/8" to 2".

Offset Sockets



With Hex or Square Opening for general service.
Size range: Hex openings, 5/16" to 2-3/8".
Square openings, 1/8" to 2".

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TOOL HOLDERS



"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS SCREWS



HOIST HOOKS



EYE BOLTS



HOW AND WHY

WILLIAMS' TOOLS AID WAR PRODUCTION



SPEED. Much time is saved on this machine assembly job with this "Supersocket" combination. The operator quickly tightens a long row of cap screws while standing erect. Wrench assembly consists of S15P Speeder Handle, S110P Extension Bar and Socket.



SAFETY. A slip of the wrench could be serious for this millwright working on an overhead lineshaft. His "Supersocket" Wrench not only gets to an awkwardly-placed nut but, in completely encasing it, makes slippage practically impossible. Wrench assembly consists of S20A Sliding T Handle and Socket.

SAVING TIME WITH "SUPERSOCKETS"

● Detachable Socket Wrenches offer two inherent advantages which should not be overlooked today. Because of their basic design which provides for the assembling of the various components, Williams' "Supersockets" permit the user to assemble what amounts to a special wrench for the particular job at hand. Thus a *faster*, and often *safely*, wrench is provided as shown in the several Socket Wrench applications illustrated. Vital man-hours can be saved on many manufacturing, maintenance and repair operations by the use of a suitable "Supersocket" combination.



OBSTRUCTIONS like this would present quite a problem for any other type of wrench, and would undoubtedly require removal of the bracket in the foreground. Wrench assembly consists of S51 Ratchet and Socket. This Ratchet will permit rotation of the nut when handle swing is limited to as little as 30°.

A FEW TYPICAL HANDLES & PARTS



A FEW TYPES OF SOCKETS



Williams' "Supersockets" are made in 5 patterns. Sold singly and in complete sets.

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HARD-TO-REACH places are "duck soup" for "Supersockets." This workman will save a lot of time that otherwise would be consumed in disassembling the machine in order to reach the particular bolt that needs tightening. Wrench assembly consists of S15P Speeder Handle, S115P Extension Bar and Socket.

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TOOL HOLDERS



"C" CLAMPS



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THUMB NUTS SCREWS



HOIST HOOKS



EYE BOLTS



HOW AND WHY

WILLIAMS' TOOLS AID WAR PRODUCTION

DATA ON "VULCAN" EYE BOLTS



● Eye Bolts are used extensively to facilitate the moving, installation and handling of machines, equipment, gigs, etc. Many designers place Eye Bolts at strategic locations on their machines to eliminate hazardous stresses that would cause torsional weave or misalignment of critical sections or surfaces. In addition to these common industrial uses, Eye Bolts are today widely used on such war equipment as guns, tanks and boats for lifting and towing purposes. Eye Bolt failure, in addition to endangering life, may cause damage to delicate or costly mechanisms. *Strength and Safety* are therefore the fundamental essentials of Eye Bolt design.

Williams' "Vulcan" Eye Bolts are weldless, being drop-forged from a solid blank of carbon steel. After forging they are heat-treated to further increase their strength and toughness and reduce liability of breakage. Every "Vulcan" Eye Bolt is then individually proof-tested on a standard tension machine to *fifty percent beyond* its rated "safe working load." Each Eye Bolt so tested and approved is stamped with the circular identifying mark shown in the illustration at left.

The following data is intended to help users in the selection of available standard patterns and sizes. These "Vulcan" Eye Bolts can be furnished blank, from stock. Plain and Shoulder Patterns are carried in stock threaded U. S. Std., but Miscellaneous Patterns must be threaded to order.



SHOULDER PATTERN "VULCAN"

| No. | Shank | | | Eye, Diameter | | Capacity Blanks, Tons of 2000 lbs. | |
|-----|----------------------------------|---------------------------------------|--------------------------------|---------------|---------|------------------------------------|---------------------------|
| | Diam.; Nominal Rough Size; Blank | Std. Lgth. under Shld. Blank and Thd. | Max-imum Lgth. in Stock; Blank | Inside | Outside | Safe Working Load, Apprx. | Break- ing Strain, Apprx. |
| 21 | 1/4 | 1 | 3 | 3/4 | 1 3/16 | .2 | 1.5 |
| 22 | 5/16 | 1 1/8 | 4 | 7/8 | 1 7/16 | .4 | 2. |
| 23 | 3/8 | 1 1/4 | 4 1/2 | 1 | 1 21/32 | .7 | 3. |
| 24 | 7/16 | 1 3/8 | 4 1/2 | 1 3/32 | 1 27/32 | 1. | 4. |
| 25 | 1/2 | 1 1/2 | 4 1/2 | 1 3/16 | 2 1/16 | 1.3 | 5. |
| 26 | 9/16 | 1 5/8 | 4 1/2 | 1 9/32 | 2 9/32 | 1.5 | 6. |
| 27 | 5/8 | 1 3/4 | 4 1/2 | 1 3/8 | 2 1/2 | 2. | 8. |
| 28 | 3/4 | 2 | 5 | 1 1/2 | 2 13/16 | 3. | 12. |
| 29 | 7/8 | 2 1/4 | 5 | 1 11/16 | 3 1/4 | 3.5 | 16. |
| 30 | 1 | 2 1/2 | 5 | 1 13/16 | 3 9/16 | 4. | 20. |
| 31 | 1 1/8 | 2 3/4 | 5 | 2 | 4 | 5. | 23. |
| 32 | 1 1/4 | 3 | 6 | 2 3/16 | 4 7/16 | 7.5 | 33. |
| 34 | 1 1/2 | 3 1/2 | 6 | 2 1/2 | 5 3/16 | 9. | 42. |
| 35 | 1 3/4 | 3 3/4 | 6 | 2 7/8 | 6 1/16 | 11. | 53. |
| 36 | 2 | 4 | 6 | 3 1/4 | 6 7/8 | 13. | 68. |



PLAIN PATTERN "VULCAN"

| No. | Shank | | | Diameter Eye | | Capacity Blanks, Tons of 2000 lbs. | |
|-----|----------------------------------|---------------------------------------|---------------------------------|--------------|---------|------------------------------------|---------------------------|
| | Diam.; Nominal Rough Size; Blank | Std. Length under Eye, Blank and Thd. | Max-imum Length in Stock; Blank | Inside | Outside | Safe Working Load, Apprx. | Break- ing Strain, Apprx. |
| 3 | 3/8 | 1 1/4 | 4 1/2 | 1 | 1 21/32 | .7 | 3. |
| 4 | 7/16 | 1 3/8 | 4 1/2 | 1 3/32 | 1 27/32 | 1. | 4. |
| 5 | 1/2 | 1 1/2 | 4 1/2 | 1 3/16 | 2 1/16 | 1.3 | 5. |
| 6 | 9/16 | 1 5/8 | 4 1/2 | 1 9/32 | 2 9/32 | 1.5 | 6. |
| 7 | 5/8 | 1 3/4 | 4 1/2 | 1 3/8 | 2 1/2 | 2. | 8. |
| 8 | 3/4 | 2 | 5 | 1 1/2 | 2 13/16 | 3. | 12. |
| 9 | 7/8 | 2 1/4 | 5 | 1 11/16 | 3 1/4 | 3.5 | 16. |
| 10 | 1 | 2 1/2 | 5 | 1 13/16 | 3 9/16 | 4. | 20. |
| 11 | 1 1/8 | 2 3/4 | 6 | 2 | 4 | 5. | 23. |
| 12 | 1 1/4 | 3 | 6 | 2 3/16 | 4 7/16 | 7.5 | 33. |
| 13 | 1 1/2 | 3 1/2 | 6 | 2 1/2 | 5 3/16 | 9. | 42. |
| 14 | 1 3/4 | 3 3/4 | 6 | 2 7/8 | 6 1/16 | 11. | 53. |
| 15 | 2 | 4 | 6 | 3 1/4 | 6 7/8 | 13. | 68. |
| 16 | 2 1/2 | 5 | 6 | 4 | 8 9/16 | 16. | 85. |



TYPE A



TYPE B

MISCELLANEOUS PATTERNS

These two styles are carried in stock blank (not threaded) in the following shank dimensions:

Type A, 1/4" x 3/4" to 1-1/16" x 4-1/8"

Type B, 1/4" x 1/2" to 1" x 2-3/4"



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TOOL HOLDERS



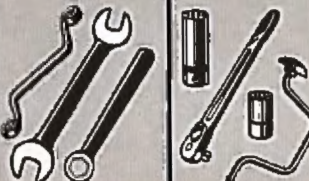
"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS



HOIST HOOKS



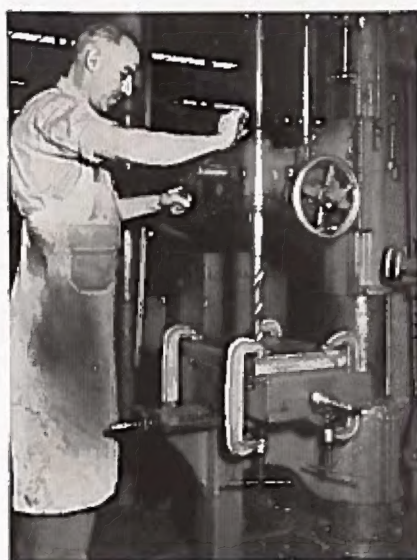
EYE BOLTS



VICES

HOW AND WHY

WILLIAMS' TOOLS AID WAR PRODUCTION



With "C" Clamps now widely used in many phases of war industry and construction, information on the various standard types is timely. Williams' Clamps are all drop-forged from selected steel and heat-treated. Screws are made of special steel, hardened and tempered. A description of the various Williams' patterns, for light, medium, heavy and special duty, follows:

WILLIAMS' "VULCAN" for heavy service



11 sizes, with maximum capacities from 3/4" to 12-1/2". Long screws can be furnished providing a minimum capacity of 0. Screws threaded U. S. Std.

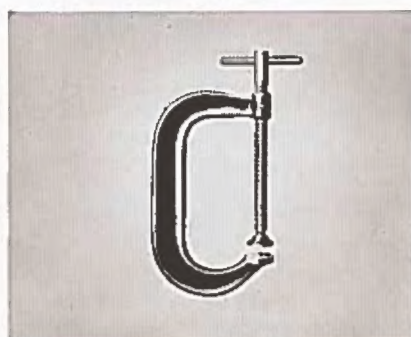
DATA ON WILLIAMS' "C" CLAMPS

WILLIAMS' "AGRIPPA" for general service



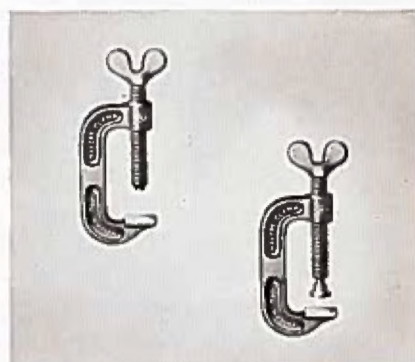
8 sizes, with maximum capacities from 3" to 18". Fitted with drop-forged swivel and screws having sliding pin handle, and threaded U. S. Std.

WILLIAMS' "DEEP THROAT" for light duty and welding



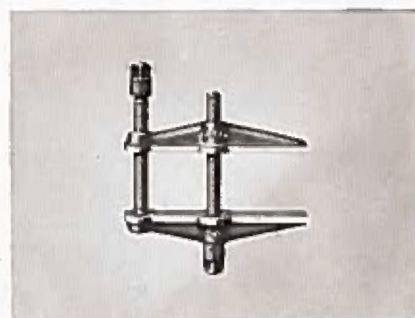
7 sizes, with maximum capacities from 2" to 12". Furnished in two finishes: *Standard* for general service; *Spatter-Resisting* for welding, completely cadmium-plated to resist adherence of welding spatter. Screws have special thread for strength and rapid adjustment.

WILLIAMS' "VULCAN" TOOL-MAKERS CLAMPS



Furnished in 2 types: with plain and with swivel screw. Each type in 4 sizes, with maximum capacities as follows: plain screw, 1" to 4-1/4"; swivel screw, 3/4" to 4". All screws have wings shaped to permit use of lever in tightening. U.S. Std. thread.

WILLIAMS' "VULCAN" PARALLEL-JAW CLAMP for Machinists' use



4 sizes, with maximum capacities from 1-1/4" to 4-1/4". Screws threaded U. S. Std.

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TOOL HOLDERS



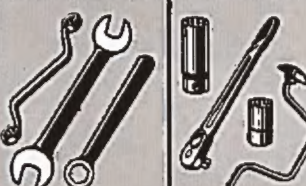
"C" CLAMPS



LATHE DOGS



WRENCHES OF ALL TYPES



PIPE TONGS



THUMB NUTS SCREWS



HOIST HOOKS



EYE BOLTS



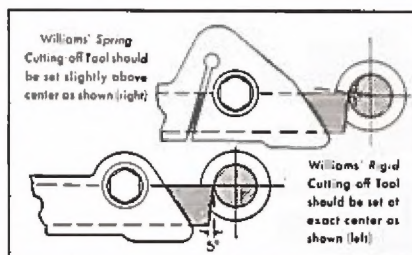
HOW AND WHY

WILLIAMS' TOOLS AID WAR PRODUCTION



With Williams' Spring Cutting-Off Tool Holder, feed can be applied automatically leaving operator free to watch and thoroughly lubricate the work.

● Williams' Spring Cutting-Off Tool Holder makes comparatively simple a lathe operation normally one of the most difficult. Several advantages result from the "goose-neck" design of this Holder which automatically provides relief from any sudden or excess pressure on the cutter blade. Even an inexperienced operator can cut off work considerably out-of-round without chatter, "climbing" or damage to either tool or work. The shock-absorbing qualities of this Spring Head, likewise, tend to protect lathe bearings and journals and will definitely improve the quality of work done on old and "loose" lathes. Only with this type

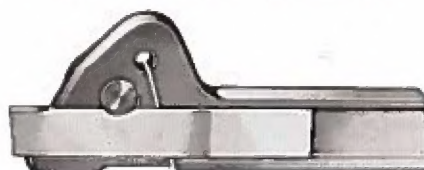


USE OF WILLIAMS' CUTTING-OFF TOOL HOLDERS

of Spring Holder can the automatic cross feed be used for cutting-off operations.

In setting-up, the *spring* cutting-off tool should be set slightly above center. A *rigid* cutting-off tool, however, should always be set on exact center. See drawing at lower left. Cutters may be sharpened by grinding the end of the blade—usually to an angle of 5°. The sides of Williams' blades never need to be reground since they have sufficient taper throughout their length to provide side clearance. The work should be flooded with oil when cutting off steel. No lubricant is necessary with cast iron or non-ferrous metals.

WILLIAMS' SPRING CUTTING-OFF HOLDERS



Straight Shank Pattern
Four sizes, $3/8 \times 31/32"$ to $3/4 \times 1-5/8"$.



Right Hand Offset Pattern
Five sizes, $3/8 \times 13/16"$ to $3/4 \times 1-5/8"$.

The above illustrations show two patterns of Williams' Spring Cutting-Off Tool Holders—Straight and Right Hand Offset—and list the sizes

in which these tools are available. The same blade fits either pattern in corresponding sizes.

Below are illustrated three patterns of Williams' Cutting-Off and Side-Tool Holder, and sizes listed in which each is available. This Holder accommodates either a cutting-off or side blade without any adjustment. It is a *rigid* rather than *spring* tool. Its cutting-off blade is interchangeable with Williams' Spring Holder. Both these types of Williams' Holders employ a positive cam lock to hold their blades in place, which is both quick-acting and rugged.

WILLIAMS' CUTTING-OFF AND SIDE-TOOL HOLDERS



Right Hand Straight Shank Pattern

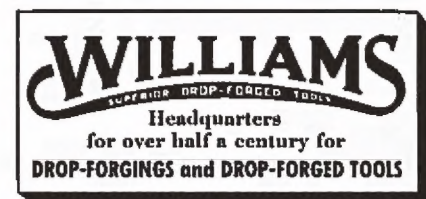


Right Hand Offset Pattern



Left Hand Offset Pattern

All patterns are made in seven sizes, $5/16" \times 13/16"$ to $7/8" \times 1-3/4"$.



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TOOL HOLDERS



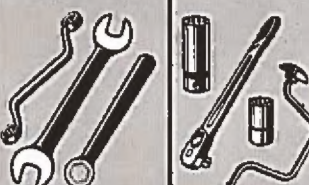
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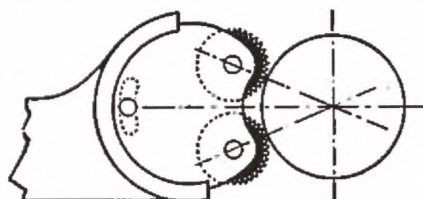
WILLIAMS' TOOLS AID WAR PRODUCTION

USE OF WILLIAMS' KNURLING TOOL HOLDERS

● Knurling differs from most lathe operations in that it is not a *cutting*, but rather an *embossing* or *extruding* operation. Knurling actually increases the diameter of the work.

Whenever possible, work to be knurled should be held between centers. Long and extremely light pieces should be supported with a Steady Rest. In other words, the work must be prevented from springing away from the cross pressure of the knurling rolls.

Set the Knurling Tool Holder well back in the Tool Post and so positioned that top and bottom rolls are equidistant above and below center of the work, as sketched below. Tool Post screw should be securely tightened.



With lathe in slow speed, begin at Tailstock end so as to feed towards Headstock. Force the Knurling Tool into the work—*abruptly*—to approximately full depth of the knurl. This should be accomplished *before* rolls can make one complete revolution. If the knurling is to start at the extreme end of the work, start the Tool so that only half the width of the roll face contacts the work when forced in with the hand cross feed.



The self-centering Head of this Williams' No. 1-K Holder assures equal pressure of both Knurling Rolls against the work.

Engage the longitudinal power feed and let the Tool travel across the face of the work for desired distance. Now reverse direction of carriage travel, without removing Tool from the impression, and feed back across the face of the work. Slight additional cross feed may be applied, as the carriage reverses, to further sharpen knurling.

Some machinists use oil when knurling—others prefer air pressure so as to blow all chips clear. Illustration below shows sample of knurling by both methods. Actually both samples are of about equal quality.



Unretouched photo of work sample. Air pressure used on knurling at left end—oil on knurling at right. Piece is 3/4" mild steel bar; coarse knurled with Williams' No. 11-K Holder; spindle speed 250 R.P.M.; both ends knurled with one pass up and reverse.

WILLIAMS' KNURLING TOOL HOLDERS



Nos. 00-K to 2-K, 4 sizes, 5/16" x 3/4" x 5" to 5/8" x 1-3/8" x 7-1/2" with self-centering Head and fitted with ONE pair of knurls.



Nos. 11-K and 12-K, 2 sizes, 1/2" x 1-1/8" x 6-5/8" and 5/8" x 1-3/8" x 6-5/8" with Revolving Head and THREE pairs of knurls, for fine, medium and coarse work.

KNURLS FOR WILLIAMS' HOLDERS

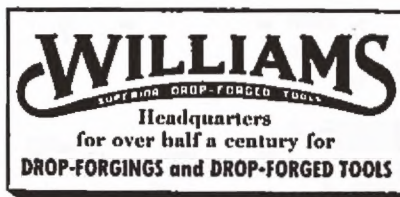


DIAMOND PATTERN



STRAIGHT-LINE PATTERN

Both patterns furnished in pairs, to fit standard makes of Knurling Tools, in 3 different pitches: Coarse, 14 pitch; Medium, 21 pitch; Fine, 33 pitch.



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